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ABSTRACT

The five-volume directory describes more than 1,200 discretionary grants and contracts supported by the Research to Practice Division of the Office of Special Education Programs. The projects are grouped into sections representing the seven program areas of the Individuals with Disabilities Education Act Amendments (1997), Part D. This volume, the fourth of the directory, describes projects concerned with technology and media services. These projects are intended to (1) support educational media activities that are designed to be of educational value to children with disabilities; (2) provide video descriptions, open captioning, or closed captioning of television programs, videos, or educational materials; (3) distribute captioned and described videos or educational materials; (4) provide free educational materials, including textbooks, in accessible media for visually impaired and print-disabled students in elementary, secondary, postsecondary, and graduate schools; and (5) provide cultural experiences through appropriate nonprofit organizations, such as the National Theater of the Deaf. The 80 projects are grouped by funding competitions and information includes grant number, title, project director, beginning and ending dates, and contact information. An abstract usually describes the project's purpose, proposed method, and proposed products. Four indexes are provided: a project director index, an organization index, a state index, and a subject index. (DB)

ED 417 559

Discretionary Projects Supported by the Office of Special Education Programs

Under the Individuals with Disabilities Education Act

Fiscal Year 1997

TECHNOLOGY AND MEDIA SERVICES

U.S. Department of Education
Office of Special Education Programs
Research to Practice Division

EC 306 306

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Discretionary Projects Supported by the Office of Special Education Programs
Under the Individuals with Disabilities Education Act
Fiscal Year 1997

TECHNOLOGY AND MEDIA SERVICES

Prepared by
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ERIC Clearinghouse on Disabilities and Gifted Education
The Council for Exceptional Children

U.S. Department of Education
Office of Special Education Programs
Research to Practice Division

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Technology and Media Services

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This directory, which is presented in five separately published sections, describes more than 1200 discretionary grants and contracts supported by the Research to Practice Division of the Office of Special Education Programs, which administers the discretionary programs authorized by the 1997 amendments to the Individuals with Disabilities Education Act (IDEA). The projects were funded under the provisions of the original IDEA but for the purposes of this directory are grouped into five separate sections representing the seven program areas of the newly authorized IDEA Part D:

1: **Research, Innovation and Evaluations** (which covers two programs: *Research and Innovation* and *Studies and Evaluations*)

2: **Personnel Preparation**

3: **Technical Assistance, Dissemination, and Parent Training** (which covers two programs: *Technical Assistance and Dissemination* and *Parent Training and Information)*

4: **Technology and Media Services**

5: **State Improvement**

This section of the directory, "Technology and Media Services," presents projects that aim to: (1) support educational media activities that are designed to be of educational value to children with disabilities; (2) provide video description, open captioning, or closed captioning of television programs, videos, or educational materials; (3) distribute captioned and described videos or educational materials; (4) provide free educational materials, including textbooks, in accessible media for visually impaired and print-disabled students in elementary, secondary, postsecondary, and graduate schools; and (5) provide cultural experiences through appropriate nonprofit organizations, such as the National Theater of the Deaf.

Within this section of the directory, the projects are grouped by the competitions under which they were originally funded. Access to the project information is enhanced by several indexes, which include:

- **Project Director Index**
- **Organization Index**
- **State Index**
- **Subject Index**

This directory is also accessible as a searchable database on the World Wide Web. The Uniform Resource Locator is **http://www.cec.sped.org/osep/search.htm**

If any errors are found in this material, please report them to the ERIC/OSEP Special Project (chriss@cec.sped.org) so that future editions of the directory and the database will be as accurate as possible.

Competition 84.026A:
Closed-Captioned Sports Programs

Grant Number: **H026A40003**

Provide Closed Captioning of Sports Events in Realtime

Project Director: MOORE, MERLE

Beginning Date: Apr 5, 1994
Ending Date: Apr 4, 1998

REAL-TIME CAPTIONING, INC.
16031 SHERMAN WAY
VAN NUYS, CA 91406

Purpose: To expand the closed captioning of major nationally broadcast sports events and enable consumers with hearing impairments to enjoy sporting and other television events.

Method: Real-Time Captioning, Inc. (RTC) proposes to caption 484 hours of CBS and NBC sporting events utilizing existing equipment, facilities, and personnel to provide near-verbatim real-time captioned coverage of national sports programs. To increase viewer awareness of program availability and encourage sponsorship of captioning by corporate America, staff will increase attendance at conferences representing the hearing impaired, issue joint public service announcements with the broadcasting services, as well as create company-sponsored newsletters, and place articles in professional and trade magazines and journals. As public and corporate consciousness is raised, new opportunities will arise as well, including the use of captioning services to raise the literacy rate and to bring the written word into the homes of people with reading or language deficiencies.

Products: As a result of this project, consumers with hearing impairments will be able to enjoy more fully the educational and entertainment value of television while increasing their reading skills.

Grant Number: **H026A70002**

Provide Closed Captioning of Sports Events in Realtime

Project Director: Hansel, Michael

Beginning Date: Oct 1, 1997
Ending Date: Sep 30, 2000

Real-Time Captioning, Inc.
16031 Sherman Way
Van Nuys, CA 91406
(818)376-0406

Purpose: This project will continue Real-Time Captioning's (RT) closed captioning of major sports events and enable the hearing-impaired community to participate in and enjoy sporting events, providing educational, social, and cultural benefits.

Method: RT proposes to caption approximately 800 hours of sports events, using existing equipment, facilities, and personnel, and ensuring that the project will be cost effective.

Products: In addition to giving hearing-impaired people expanded closed captioning of sports events, this project will help increase the popularity of this service. As the popularity increases, so will public awareness and interest in the private sector for continuation of this service.

Grant Number: **H026A70003**

Closed Captioned Sports Programs

Project Director: Ferrier, Patricia

Beginning Date: Oct 1, 1997
Ending Date: Sep 30, 2000

Media Captioning Services
2141 Palomar Airport Road, Suite 310
Carlsbad, CA 92009
(619)431-2882

Purpose: This project of Media Captioning Services (MCS) aims to provide stenographic realtime and live display captioning services of sports programming on the Cable News Network's (CNN) national news programming.

Method: This project builds on MCS's expertise in captioning sports and sports news over the past seven years. The sports programming to be captioned airs on CNN's national feed and includes added sports coverage from the news reporters of Sports Illustrated, providing the most comprehensive sports news service in television.

Products: This project will allow MCS to maintain its current level of captioning of 495 hours per year of CNN sports programming to allow 70 million homes access to daily and weekend sports closed captioned news.

Grant Number: **H026A70004**

Closed Captioned Sports Programs

Project Director: Karlovits, Joseph R.

Beginning Date: Oct 1, 1997
Ending Date: Sep 30, 2000

VITAC
Southpointe
101 Hillpointe Drive
Canonsburg, PA 15317
(412)514-4000

Purpose: This project of VITAC, a major provider of captioning services, proposes to caption a variety of sports programs available to audiences on broadcast and basic-cable television.

Method: The project proposes to assure the quality captioning of over 3,400 hours of sports television programming over the three years of the grant. It will continue and expand the captioning of nationally televised programs which closely match preferences of the captioning audience. It will expand private-sector support for captioning by using federal funds as an inducement to increase funding support from program producers, and it will continue to seek input from the deaf community through its Caption Viewer Advisory Panel.

Products: The captioned programs developed by this project are virtually the only cultural experience which hearing and non-hearing members of the same family can share on equal footing. Through its use

of private sector funding, the project will substantially increase the amount of captioned programming in a cost-effective manner, while the need for government funding decreases after the first program year.

Grant Number: **H026A70005**

Closed Captioned Sports Programs

Project Director: Karlovitz, Joseph

Beginning Date: Oct 1, 1997
Ending Date: Sep 30, 2000

VITAC
Southpointe
101 Hillpointe Drive
Canonsburg, PA 15317
(412)514-4000

Purpose: This project by VITAC will caption a variety of sports programs available to audiences on broadcast and basic-cable television.

Method: VITAC will caption over 3,600 hours of sports television over the three-year grant period and will continue and expand its captioning of nationally televised programs which closely match the preferences of the captioning audience. It will expand private sector support for captioned programming and will continue to seek input from the Deaf community through its Caption Viewer Advisory Panel.

Products: Closed captioned television is the primary source of news, information, and entertainment for many people, and virtually the only cultural experience which hearing and non-hearing members of the same family can share on equal footing. This project will continue to provide this cultural service to the hearing-impaired community.

Grant Number: **H026A70007**

Closed Captioned National Sports Programming to Benefit the Nation's Deaf and Hard-of-Hearing Population

Project Director: Orphan, Dave

Beginning Date: Oct 1, 1997
Ending Date: Sep 30, 2000

National Captioning Institute
Office of the President
1900 Gallows Road, Suite 3000
Vienna, VA 22182
(703)917-7623

Purpose: With this project, the National Captioning Institute (NCI) assures the annual captioning of over 2,700 hours of nationally broadcast sports programming during the three years of the proposed project.

Method: Captions for programs will be provided verbatim using real-time captioning technology. NCI has developed private commitments to increase its efficiency and continue its work beyond the grant.

NCI will continue its comprehensive, market-driven, firm fixed price approach for captioning all programs that are proposed.

Products: This project benefits not only people who are deaf or hard-of-hearing but also other groups, including children and adults with limited English proficiency, students learning to read, students with learning disabilities, and people for whom English is a second language.

Competition 84.026C:
Video Description

Grant Number: **H026C70002**

Video Description: Narrative Television Network Broadcast and Cable

Project Director: Stovall, Jim

Narrative Television Network
5840 South Memorial Dr.
Tulsa, OK 74145
(918)627-1000

Beginning Date: Oct 1, 1997
Ending Date: Sep 30, 2000

Purpose: This three-year project of the Narrative Television Network (NTN) will build upon its continuing services for blind and visually impaired children and adults by producing new television and movie programming as well as adapting pre-produced described programming to be delivered via home video.

Method: The project will produce and distribute accessible television and movie programming for home video use, using existing NTN personnel, studios, and programming agreements, as well as its affiliate base and ongoing base of operations.

Products: Videos will be made available for loan, rental, and purchase through video stores, libraries for the blind, groups and organizations that serve the visually impaired, NTN's lending library, and announcements on NTN's affiliate stations.

Grant Number: **H026C70004**

Descriptive Video Service: Describing Television Programs for Adults

Project Director: Joyce, Raymond

Beginning Date: Oct 1, 1997
Ending Date: Sep 30, 2000

WGBH Educational Foundation
Descriptive Video Service
125 Western Ave.
Boston, MA 02134
(617)492-2777

Purpose: Through this project, WGBH's descriptive video service (DVS) will expand its programming to a national commercial network, while maintaining its presence on the Public Broadcasting Service, and a basic cable service, describing a minimum of 150 program hours for adults.

Method: Using focus groups, DVS will test its descriptions of network programming and classic movies. It will also seek corporate sponsorship to augment the grant-funded activities, thus expanding its outreach to blind and visually impaired persons. It will expand its campaign to educate the cable industry about the availability of described television programs (broadcast as well as on videotape) and to promote this service to cable audiences. It will encourage television producers to begin including video descriptions in their budgets.

Products: This project intends to increase the range of available described video programming for blind or visually impaired television audiences—directly, through its descriptive video service and indirectly, through its efforts to expand into commercial broadcasting.

Grant Number: **H026C70005**

Descriptive Video Service: Describing Educational and Popular Home Videos

Project Director: Joyce, Raymond

Beginning Date: Oct 1, 1997
Ending Date: Sep 30, 2000

WGBH Educational Foundation
Descriptive Video Service
125 Western Ave.
Boston, MA 02134
(617)492-2777

Purpose: WGBH's Descriptive Video Service (DVS) intends to continue making movies and educational programs on home video accessible to blind or visually impaired persons.

Method: DVS will describe a minimum of 45 new home video titles and promote another 164 described videos. It will work to expand the availability of these titles to retail video rental outlets as well as through free-access locations such as public libraries and direct mail. The grant-funded activities will be supplemented through corporate sponsorship and private foundation support.

Products: DVS intends to expand its outreach to blind and visually impaired persons with materials in accessible formats. It will encourage producers in the home video industry to begin including video descriptions in the budgets of their films and it will work to incorporate video description into the new digital videodisc format.

Grant Number: **H026C70007**

Descriptive Video Service: Describing Television Programs for Children

Project Director: Joyce, Raymond

Beginning Date: Oct 1, 1997
Ending Date: Sep 30, 2000

WGBH Educational Foundation
Descriptive Video Service
125 Western Ave.
Boston, MA 02134
(617)492-2777

Purpose: WGBH's Descriptive Video Service (DVS) intends to make public, cable, and commercial children's television programs accessible to blind or visually impaired persons. DVS will expand to a national commercial network, while maintaining its presence on the Public Broadcasting Service and on a cable service provider.

Method: Through this project, DVS will provide narrative descriptions for a minimum of 150 program hours for children. It will seek corporate sponsorship and private foundation support to supplement its grant-funded activities and it will encourage producers and funders of children's programming to begin in-

cluding video description in their budgets. DVS will also encourage promotion of its services by cable providers.

Products: This project will help ensure that all children's programs described as a result of the grant will be made available through its home video service.

Competition 84.026D:
Educational Video Selection and Captioning

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Grant Number: **H026D70002**

Solicitation, Screening, Evaluation, Procurement, and Captioning of Educational and Special Interest Videos

Project Director: Stark, Bill

National Association of the Deaf
814 Thayer Avenue
Silver Spring, MD 20910
(301)587-1788

Beginning Date: Oct 1, 1997
Ending Date: Sep 30, 2001

Purpose: The NAD will continue its program of screening, evaluating, captioning, and disseminating films and videos that provide enriched educational and cultural experiences for persons who are deaf and hard of hearing.

Method: The NAD will use its outreach program and capabilities in providing services for persons who are deaf and hard of hearing. Consumer input and careful monitoring of educational and technological innovations will permit the NAD to recommend appropriate adaptations to the Captioned Films/Videos (CFV) program to meet changing needs.

Products: This project is designed to generate increased usage of captioned titles made available through the CFV program and to meet the requirements of both changing needs and changing technologies as the CFV program advances into the next century.

Competition 84.026E:
National Theatre of the Deaf

Grant Number: **H026E70001**

National Theatre of the Deaf Professional Training Program and Outreach

Project Director: Joslow, Jon

National Theatre of the Deaf
P.O. Box 659
Chester, CT 06412
(860)526-4971

Beginning Date: Mar 27, 1997
Ending Date: Mar 26, 2000

Purpose: The National Theatre of the Deaf (NTD) proposes to conduct a series of programs that will provide for the development and broadening of the theatrical and general cultural range of the Deaf population in the United States. The NTD proposes to train Deaf and, on a limited basis, hearing actors and artists in a variety of theatrical production areas. The touring productions developed through such training will give the general population an increased awareness of the capabilities, skills, and artistry of the Deaf as well as an enhanced understanding and appreciation of deafness and Deaf culture. The training and the productions and projects developed as a result of such training are intended to promote cross-cultural understanding, help enable the Deaf and hearing populations explore ways to overcome communication barriers, and provide opportunities for the Deaf to participate in and contribute to society as a whole.

Method: The NTD will accomplish these goals through the implementation of the following: a professional training program in a variety of disciplines; the presentation of live performances for both adults and young people that will be performed in American Sign Language and the spoken word; outreach activities in education and the arts, including professional and technical assistance to regional and local cultural and educational programs; and the production of videotaped performances for distribution and, whenever possible, national and regional television broadcast.

Products: The NTD believes that there is inherent value in an established theatre company that develops and maintains a living language, ASL, as a unique art form. Live theatre, abetted by television, continues to be an important vehicle for breaking down the stereotypes that exist regarding minorities, in this case, those surrounding deafness and American Sign Language. With the efforts of the NTD under this project, hearing children and adults can be exposed to the artistry and professionalism of the Deaf, and Deaf children and adults throughout the U.S. can continue to have gifted actors as role models and as a source of pride and inspiration. The NTD is in a unique position to celebrate and disseminate ASL in this form and to explore the language as a teaching tool.

Competition 84.026H:
Descriptive Home Video

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Grant Number: **H026H40001**

A Plan to Expand the Marketing Campaign for DVS Home Video

Project Director: EVERETT, LAURIE

WGBH EDUCATIONAL FOUNDATION
DESCRIPTIVE VIDEO SERIES
125 WESTERN AVENUE
BOSTON, MA 02134
(617)492-2777

Beginning Date: Oct 1, 1994
Ending Date: Sep 30, 1998

Purpose: To continue DVS efforts to make movies and programs on videotape accessible to the nation's visually impaired population and to continue a multi-tiered marketing plan to make described tapes available for purchase, rental and free access through America's public libraries.

Method: Marketing and dissemination will be instrumental to DVS Home Video's development as a self-sustaining business. DVS Home Video will utilize experience gained in developing and refining marketing elements to maintain collaboration with the DVS Outreach Department, to continue a marketing plan to libraries, and to create new opportunities to promote described videos. As with all previous activity, consumer feedback will help determine the components of marketing efforts, title selection and description techniques. DVS will work to add new titles to the inventory, providing blind and visually impaired persons access to some of the most popular and requested home video products on the market. Addition of titles will be determined by the quality of the description, demand for the titles and the pricing policies, and confirmation that distribution rights are cleared. Consumer input will be gathered at conventions, local and national consumer advisory councils, comments on the DVS automated toll-free 800 telephone system, and Reply Card surveys included with DVS home videos.

Products: DVS described home videos will add to the social, cultural, and education lives of visually impaired persons. DVS will encourage independence for blind persons, provide socialization skills, lessen the feelings of isolation that can accompany a disability, provide in-home entertainment for those with limited mobility, and help blind and visually impaired persons to be included in the video age. As a result of this project, DVS will provide in year one, a minimum of 5 new home video titles for persons who are visually impaired and their families.

Competition 84.026N: Captioned Films and Videos Distribution System

25

Grant Number: **H026N50002**

Operation of A Free-loan Captioned Films/ Videos Distribution System for Deaf and Hard of Hearing Individuals

Project Director: BLOCH, NANCY

NATIONAL ASSOCIATION OF THE DEAF
814 THAYER AVENUE
SILVER SPRING, MD 20910-4500
(301)587-1788

Beginning Date: Oct 1, 1995
Ending Date: Sep 30, 1998

Purpose: To extend the National Association for the Deaf's operation of the Captioned Film/Videos program under a cooperative agreement for distribution of captioned films and videos, including new strategies for outreach and initiatives to add CD-ROM and other multimedia materials to the library.

Method: A rigorous program of education, self-improvement, information sharing, and idea exchange will be developed and implemented for depository personnel, to include a Depository Manager's Handbook and general training on operations processes as well as computer enhancements. Consumer involvement and evaluation will be fostered through a national client survey, feedback forms distributed with each videocassette, and the use of client advisors identified by regional depository managers. The NAD will rely on this feedback to improve strategies and procedures for operating the distribution system. A new client registry system will be developed, to include a proactive component to identify potential clients and solicit their registration. Lesson guides accompanying all new educational materials will be printed and made available to clients. These guides will also be available on computer disks, and CD-ROM copies of all guides will be provided to depository managers. The NAD will prepare, update, and disseminate an annual catalog of captioned films and videos, including citations, grade and interest levels, lesson guide reference, and information on soundtrack-caption synchronization. Promotional activities aimed at non-educational clients will include paid advertisements in selected journals and publications as well as networking with members of deaf and hard of hearing communities and consumer organizations. An internal marketing information system will be developed for day-to-day managing and structuring of information. This system will identify areas for improving promotional activities, incorporating successful strategies by related organizations, and utilizing research results.

Products: In addition to maintaining and expanding the CFV library and services, this project will generate regular features in major consumer publications, submissions to professional publications and electronic networks, and exhibits and presentations at national gatherings, all intended to reach larger audiences with general captioning information. Established dissemination practices will be continued, including a depository managers' newsletter, printed CFV catalogs and lesson guides, and printed advertising material.

Competition 84.026Q:
Video Description Projects

Grant Number: **H026Q50001**

Video Description Project

Project Director: STOVALL, JAMES

Beginning Date: Oct 1, 1995
Ending Date: Sep 30, 1998

NARRATIVE TELEVISION NETWORK
5840 SOUTH MEMORIAL DRIVE SUITE 312, CITY OF TULSA
TULSA, OK 74145
(918)627-1000

Purpose: To move the field of descriptive video for persons with visual impairments toward the level of enjoyment and use currently experienced by deaf and hard-of-hearing persons through video captioning.

Method: To further define the need for descriptive video programming, NTN will attempt to demonstrate through market research the programming needs and preferences of persons with visual impairments in a manner that meets current standards of programming measurement used by major networks and the television industry as a whole. NTN will draw on its current programming and broadcast relationships with major commercial networks and program providers to broaden the scope of accessible programming. New industry technology making television programming more accessible for persons with visual impairments will be identified and analyzed, and implementation will begin. Through the use of this technology and currently available digital systems, NTN will demonstrate the affordability and practicality of bringing descriptive video programming to all television users with visual impairments in the United States. Descriptive information will be provided via an optional audio signal that can be accessed by visually impaired persons through television speakers, or, if watching with fully- sighted people, through a headset or earpiece. In addition to direct contacts with the visually-impaired community and the organizations and agencies which serve them, NTN will work with the television industry, and convince them of their vested interest in serving blind and visually-impaired people with accessible programming.

Products: By the end of this three-year project, NTN will have a system in place to inform and educate the entire blind and visually-impaired community nationwide of the availability of accessible programming. NTN will have explored, demonstrated and begun to deliver accessible network and cable programming on demand to blind and visually impaired people simultaneous with delivery of programming to fully sighted viewers. NTN will be able to narrate any programming at the time it is originally broadcast, including children's programming, documentaries, sports features, educational programs, weather and other timely emergency notices.

Grant Number: **H026Q50002**

Descriptive Video Service: A Plan for Expansion to Cable Television

Project Director: EVERETT, LAURIE

WGBH EDUCATIONAL FOUNDATION
DESCRIPTIVE VIDEO SERVICE
125 WESTERN AVENUE
BOSTON, MA 02134
(617)492-2777

Beginning Date: Oct 1, 1995
Ending Date: Sep 30, 1998

Purpose: To make television and movies accessible to the nation's 12 million blind and visually impaired citizens.

Method: This project will ensure that all cable movies and appropriate public television programs are made available and benefit from its established marketing campaign. Descriptive Video Service (DVS) will provide narrated descriptions of key visual elements of a television program or movie without interfering with the program's audio or dialogue. The narration, carefully crafted to fit into natural pauses, describes visual elements such as actions, settings, body language, and graphics. Videos will be marketed to blind individuals and their families and organizations serving blind persons. Special emphasis will be placed on marketing to libraries and other lending institutions, and revenue from the sale of videos will support this grant. DVS will work with CBS to design and perform a test in Year Three, to concern such elements as internal network distribution, issues related to time zones, turnaround capacity for scheduling and audience outreach. This experiment will hopefully move the field of descriptive video closer to distribution on commercial network television.

Products: Up-to-date discussions of DVS products and services will be held via the DVS 800 information line, a variety of online networks, and booths and presentations at a variety of gatherings of organizations serving the needs of the blind community.

Competition 84.026R:
Research on Educational Captioning

Grant Number: **H026R70003**

A Study of the Eye Movement Strategies Used in Viewing Captioned Television

Project Director: Jensema, Carl

Institute for Disabilities Research and Training
2424 University B
Silver Spring, MD 20902
(301)942-4326

Beginning Date: Sep 1, 1997
Ending Date: Aug 31, 2000

Purpose: This project will conduct two studies to address the questions: 1) What eye movement strategies do people use in reading captioned television?, 2) How do these strategies vary with different people and different types of material?, and 3) Can people be taught to use more efficient eye movement strategies when reading captioned television?.

Method: The first two questions will be addressed by a survey of the eye movement strategies used by a sample of 200 people. The third question will be addressed by a controlled experiment to determine whether a computer program designed to teach efficient eye movement strategies can significantly improve captioned reading skills.

Products: Captioned television is a major source of educational material for people who are deaf or hard of hearing. With a better understanding of how people's eyes scan this material, ways could be developed to train people to read captioned television with maximum efficiency and increase their comprehension of the material, which would have a significant impact on the education of children who are deaf or hard of hearing. The results of this project will contribute to the knowledge base that will lead to these understandings.

Grant Number: **H026R70008**

Adaption of Captioning: Standards for Digital Video Technologies

Project Director: Hofmeister, Alan

Utah State University
Center for Persons with Disabilities
Utah State University
Logan, UT 84322-6800
(801)797-3718

Beginning Date: Oct 1, 1997
Ending Date: Sep 30, 2000

Purpose: This project will strive to make multimedia materials more accessible by adapting captioning standards for digital technologies. By captioning multimedia technologies, more opportunities are allowed for equal access training without special provisions being made that further segregate the hearing impaired. The National Association of the Deaf has been working with captioning service providers to develop preferred guidelines and styles for captioning.

Method: This project will explore methods of adapting captioning standards to existing multimedia programs for equal access to the hearing impaired. Digital technologies will be employed to address unresolved captioning problems such as captions that cover important information, inability to adjust font size, and pacing. These technologies can overcome these problems by providing captioning formats that can adapt to the learner's needs. When captioning is done in the onset and not as an afterthought, it can be designed for use by all learners.

Products: This project will develop captioning standards for multimedia captioning and create a multimedia captioning handbook for dissemination, helping to increase equal access to the hearing impaired.

Competition 84.026S:

Closed-Captioned Daytime Television Programs

Grant Number: **H026S50006**

Closed Captioned Daytime Programming

Project Director: FERRIER, PATRICIA

Beginning Date: Oct 1, 1995
Ending Date: Sep 30, 1998

MEDIA CAPTIONING SERVICES
APPLICATION CONTROL CENTER
2141 PALOMAR AIRPORT ROAD SUITE 310
CARLSBAD, CA 92009
(619)431-2882

Purpose: To provide stenographic realtime and live-display captioning services for a significant portion of Cable News Network (CNN) daytime programming.

Method: In this proposal, 2,392 hours of CNN programming, providing in-depth news coverage, live news, and specialized daily reports on business, medicine, finance, science, sports, weather and entertainment will be captioned. MCS will be providing quality captioning at an hourly cost of $168.71, a 27% decline from the cost less than three years ago. Continued access will be provided for Deaf and hard of hearing viewers to CNN, enabling them to be well-informed about current events during daytime hours, while making the most cost-effective utilization of limited federal and private funds. This proposal will also maintain a degree of parity in federal funding of captioned television between all commercial broadcasters, cable and broadcast networks. The selected programming mix will provide access of CNN interviews, live news, and late-breaking news, including continuous weekday captioning from 9:00 AM to 5:00 PM EST during weekdays, as well as 260 hours per annum of weekend programming.

Products: This project will provide captioning of 46 hours per week, 7 days per week, 52 weeks per year of CNN daytime programming, equating to 2,392 hours per project year. MCS will also continue to expand their contacts with national organizations representing the Deaf and hard of hearing, and will work through its advisory council to disseminate information about this project through a variety of such organizations as well as corporate sponsors. A CompuServe interface will also be implemented, allowing viewers to send messages to "call-in" shows as well as being able to watch the captions of the program in realtime on computer windows.

Grant Number: **H026S50007**

Closed-Captioned Daytime Television Programs

Project Director: O'CONNELL, TRISHA

Beginning Date: Oct 1, 1995
Ending Date: Sep 30, 1999

WGBH EDUCATIONAL FOUNDATION
THE CAPTION CENTER
125 WESTERN AVENUE
BOSTON, MA 02134
(617)492-9225

Purpose: To closed-caption and promote a variety of nationally televised daytime programs.

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Method: This project will provide reliable, high-quality captioning services for approximately 675 hours of selected daytime programs available in syndication and on cable television. Three additional hours per day of daytime talk shows will be captioned, including "Jenny Jones," "Ricki Lake," and "The Montel Williams Show." Additional program choices will also be captioned during the mornings when the LIFETIME network airs its parenting programming. Additional programs and program hours will be selected with input from an advisory group of deaf and hard-of-hearing advocates, community leaders, educators and concerned citizens, as well as feedback from consumer interest surveys. These sources will also provide input on captioning style, availability, problems, and needs.

Products: In addition to provision of the above-described captioned programming, this project will conduct a promotional campaign to reach various segments of daytime television watchers. Press releases will be combined with personal contacts with major deaf and hard-of-hearing publications to publicize program availability and program descriptions.

Grant Number: **H026S50008**

Captioned Daytime Television Programming for The Nation's Deaf and Hard of Hearing Population

Project Director: KIRKLAND, ERIC

NATIONAL CAPTIONING INSTITUTE
OFFICE OF THE PRESIDENT
1900 GALLOWS ROAD SUITE 3000
VIENNA, VA 22182
(703)917-7623

Beginning Date: Oct 1, 1995
Ending Date: Sep 30, 1998

Purpose: To provide captioning of nationally broadcast and cablecast television programming over the course of three grant years.

Method: This project will entail a 56% increase in the National Captioning Institute's captioning of daytime programming, with commitments from private sector sources to finance one third of the overall daytime programming. Private sector commitments include 100% of the funding for "General Hospital," "One Life to Live," and "Mike and Maty," while 20% of the funding to caption "Live with Regis and Kathy Lee" has been secured from private sources. On PBS, the Adult Learning Service has offered discounts on encoding, and telecourse providers will contribute $200 per hour (with current costs currently at $321.65 per hour) for captioning. Real time captioning will be employed, combining the established transmission system with a computer-assisted transcription system based on systems currently used by court reporters. Reporters using shorthand machines will create phonetic transcripts of programming while listening to live broadcasts, after which computer software will convert the phonetic input into synthesized spoken English to be transmitted via modem to the program distribution point. Viewers will be able to display captions via external decoders or, with newer televisions, a built-in caption display.

Products: This project will benefit not only the Deaf Community, but also other groups including children and adults with limited English proficiency, students learning to read, students with learning disabilities, and immigrants learning English as a second language. A total of 8,355 hours of daytime television programming will be captioned through this project's activities.

Competition 84.026T: Cultural Experiences for Deaf and Hard-of-Hearing Individuals

Grant Number: **H026T50001**

A Multimedia, Multicultural Arts Experience for Children and Youth Who Are Deaf, Hard-of-Hearing, and Hearing

Project Director: SACCHETTI, TERRYLENE

DEAF ARTS COUNCIL
3000 W. OLYMPIC BOULEVARD
SANTA MONICA, CA 90404
(310)449-4067

Beginning Date: May 1, 1995
Ending Date: Aug 30, 1999

Purpose: To provide a multimedia, multicultural arts education experience for children who are deaf, hard of hearing, and hearing, utilizing the services of adults representing all three groups.

Method: The project will involve three major components: a school year program where artists teach at "Arts Learning Centers"; a day camp program for elementary students; and a residential camp program for junior and senior high school students. Through the Arts Learning Centers, 20-25 students per month from each of 10 elementary, junior, and senior high schools in Southern California will receive a minimum of two hours' instruction per month by a qualified artist/instructor. These sessions will involve a thirty-minute demonstration/instruction session, followed by a ninety-minute free expression period. Artist/instructors will provide children with tools and suggested activities designed to function as guides in the creation of new materials for the next month's lesson. These tools and activities will also be available for use by the students' regular teachers. Lessons will cover dance, theater, and visual arts, and will culminate after four months in a showcase of student work. The planned camp experience will provide five-week camps, divided into a five-and six-days per week children's day camp for elementary students and a residential camp for secondary students. Camp activities will include: storytelling; script writing; prop and costume selection and development; set design; videotaping; acting; relaxation and meditation; photography; and other aspects of literary, performing, and visual arts. Camp experiences will include field trips (including visits to television and film studios and sets). guest artists, and culminating performances/presentations.

Products: The project will be regularly evaluated by professional evaluators, using Likert-scale surveys to gather quantifiable and objective data. An extensive marketing and dissemination plan is proposed, to include the publication of a curriculum guide at the end of the project for arts education teachers in the public schools. This guide will include activities, tools, resources and procedures found to be most effective with the project's chosen population. Project staff will attend conferences with booths representing the Deaf Arts Council, and will publicize the project throughout the entertainment industry and deaf education community.

Grant Number: **H026T50017**

Project EPIC: Education Program in Indian/Deaf Culture

Project Director: KLIMPEL, EVELYN

MINOT STATE UNIVERSITY
NORTH DAKOTA CENTER FOR DISABILITIES
500 UNIVERSITY AVENUE WEST
MINOT, ND 58707
(701)857-3580

Beginning Date: Oct 2, 1995
Ending Date: Sep 30, 1998

Purpose: To reduce cultural segregation between Native American culture and the Deaf community through a two-part educational experience for deaf and hearing elementary students.

Method: The first component of the experience will be a large group presentation/performance of Native American art including dance, story-telling, games, and costumes. The goal of this presentation will be to introduce the children to the culture of the native people of the Northern Plains. The second component will be made up of a series of in-depth workshops teaching students to perform or create a work of art in the style of the Northern Plains Indians. Performances and workshops will be conducted at various schools throughout the school year by a group of Native American junior and senior high school students under the supervision of Minot State University faculty. In order to take part in performances and conduct workshops, 20 students will receive training at an intensive eight-week summer program at MSU. Ten hearing Native American students will participate in a "total immersion" American Sign Language program. They will also receive education in Deaf culture. Ten deaf Native American students, who have lived away from their families, will receive rigorous training in Indian art and culture. All potential performers will receive instruction, direction, and considerable time to rehearse the proposed presentation. In addition, faculty from MSU's Education of the Deaf program will train the students to conduct the workshops. Finally, project staff will work with performers' high school teachers throughout the school year to maintain their skills in ASL and Native American art.

Products: A disseminable set of educational materials for deaf and hearing elementary students will be developed to increase project impact. These materials will be based on the workshops/performances of the participating students and will include teachers' manuals and student materials as well as captioned videotape. The project will also sponsor summer workshops for elementary teachers who wish to learn about Native American art and culture, Deaf culture, or ASL prior to using the materials.

Grant Number: **H026T50021**

Cultural Arts Enrichment Program (CAET)

Project Director: BANKS, MICHELLE

Beginning Date: Aug 1, 1995
Ending Date: Jul 31, 1998

GNYX THEATRE COMPANY, INC.
57 FRONT STREET, 4TH FLOOR
BROOKLYN, NY 11281

Purpose: To implement an ongoing, comprehensive program for cultural arts enrichment in New York City, highlighting provision of drama and theater experiences in American Sign Language and spoken English by and for the deaf and hard-of-hearing of all ages.

Method: Activities to be provided through the Cultural Arts Enrichment Program (CAEP) will vary according to component educational and cultural programs. These will include: (1) the creation, production, and showcasing of a theatrical performance drawn from work in the classroom and community; (2) exploration of participants' thoughts and feelings on topics such as sex/sexuality, deafness, and socialization in sessions using drama as a teaching method; (3) a festival showcasing performances and workshops by and for children, youth and adults with and without hearing impairments; and (4) a group of professional actors of color with and without hearing impairments who will travel to schools, community centers, and community residences for performance workshops in mime and creative improvisation.

Products: Expected project outcomes include: provision of dramatic and theatrical experiences for the deaf and hard-of-hearing; enhanced ethnic identity among the deaf; increased communication and socialization among the deaf and hard-of-hearing; increased awareness of stereotypes and prejudice regarding hearing, nonhearing, racial and ethnic groups; demonstration of an alternative teaching method utilizing visual and kinaesthetic techniques; and provision of training and employment opportunities for the deaf and hearing impaired in the theater arts. These outcomes will be measured through the level and quality of participation in the programs and through publicity in various media vehicles targeted to the cultural, educational, community services and general public audiences.

Competition 84.026U:
Closed-Captioned Television Programming

Grant Number: **H026U61001**

Closed Captioned National News and Public Information

Project Director: O'CONNELL, TRISHA

Beginning Date: Oct 1, 1996
Ending Date: Sep 30, 1999

WGBH EDUCATIONAL FOUNDATION
THE CAPTION CENTER
125 WESTERN AVENUE
BOSTON, MA 02134
(617)492-9225

Purpose: To continue provision of stenographic, real-time closed-captioning services for national news and public information programming.

Method: During the grantee's tenure as grant administrator, they have decreased the cost of real-time coverage by 62%, increased financial participation by networks and added participants PBS, FOX and C-SPAN, resulting in a 70% increase in the overall amount of captioned news and public information programming. This project proposes to include and expand on the initiatives of previous projects, including: early morning to late night coverage on participating national networks; round-the-clock coverage in emergency situations; all-day stand-by provisions for emergency programming on all participating networks; disclosure and distribution of technological improvements to networks and subcontractors to benefit caption customers and to streamline captioning operations; increase of captioned hours from 2,815 and 3,206, valuing refeeds at 1/8 of program length; and further reduction of the cost per captioned hour by 18%.

Products: The one-third network contribution originally introduced with this project will expand incrementally to 50% over the project's three years. Information about the availability of captioning services and captioned programming will continue to be disseminated via The Caption Center's periodical publications, mailings, presence on the World Wide Web, presentations at conferences, and local outreach activities.

Grant Number: **H026U61002**

Closed-Captioned National News & Public Information Programs

Project Director: HUTCHINS, JEFF

Beginning Date: Oct 1, 1996
Ending Date: Sep 30, 1999

VITAC: VITAL ACCESS THROUGH CAPTIONING
312 BOULEVARD OF THE ALLIES
PITTSBURGH, PA 15222

Purpose: To caption a variety of national news programs available to audiences on broadcast and basic-cable television.

Method: Over the course of the project's three granted years, staff propose to assure the quality captioning of 712 hours of ABC News programs already being captioned, as well as 2,522 hours of special report and emergency coverage on ABC and 4,160 or more hours of CNN Headline News. Private sector funding has been secured averaging over 49% throughout the grant period. The project will also continue and expand the captioning of nationally televised programs which closely match preferences of the captioning audience, and will expand private-sector support for captioned programming by using federal funds as an inducement to increase funding support from program producers. Project staff will continue to seek input from the deaf community through VITAC's Caption Viewer Advisory Panel throughout the project.

Products: The Department of Education will be credited as a funder in closed captioned contained within each captioned program. Project activities will also be publicized through press releases and a special edition of "Verbatim."

Grant Number: H026U61003

Captioned National News and Public Information Programs

Project Director: KIRKLAND, ERIC

Beginning Date: Oct 1, 1996
Ending Date: Sep 30, 1999

NATIONAL CAPTIONING INSTITUTE
OFFICE OF THE PRESIDENT
1900 GALLOWS ROAD
VIENNA, VA 22182-3865
(703)917-7623

Purpose: To continue to provide deaf and hard-of-hearing Americans with closed-captioned, nationally televised programming.

Method: This project will manage the annual captioning of 780 hours of original, nationally-broadcast television programming in each of the three years of the grant. In support of this proposal, NCI has been able to develop private sector commitments to cover many of the operation's costs. The programs to be captioned in the first year of the project are "World News This Morning" and "Good Morning America" on the ABC television network. This proposal also marks the establishment of a comprehensive, market-driven, firm fixed price approach to captioning all proposed programs, as well as improvements in the efficiency and overhead management of NCI operations.

Products: Through this project NCI will support the National Education Goals by assisting those with disabilities in meeting Goal 1, School Readiness, and Goal 5, Adult Literacy. NCI public awareness activities include: toll-free numbers for consumers; ongoing research and development; press releases; World Wide Web and Internet activities; presence at national conventions; newsletters; and NCI's function as a clearinghouses for information on captioned television.

Grant Number: **H026U61004**

Closed Captioned National News

Project Director: FERRIER, PATRICIA

Beginning Date: Oct 1, 1996
Ending Date: Sep 30, 1999

MEDIA CAPTIONING SERVICES
2072 EDINBURGH AVE.
CARDIFF BY THE SEA, CA 92007

Purpose: To provide stenographic realtime and live-display captioning services of Cable News Network (CNN) national news programming.

Method: 520 hours per year of CNN primetime programming will be captioned for the first time, providing in-depth news coverage, live news, and news from the entertainment industry. A private sector contribution from CNN will pay for 40% of the total cost. The programming mix selected for captioning will allow viewers to have uninterrupted continuous access to CNN news from 9:00 a.m. to 11:00 p.m. EST on weekdays by filling in schedule gaps currently not captioned.

Products: Project staff will actively disseminate information about project activities on articles for major Deaf organization periodicals. MCS will also work with Deaf organizations and National Advisory Council members to disseminate information about this project. Special logos and credits will be provided on-screen to identify the new captioned programming as well as the Department of Education's role in is development.

Grant Number: **H026U62001**

Captioned Syndicated Television Programming

Project Director: KIRKLAND, ERIC

Beginning Date: Oct 1, 1996
Ending Date: Sep 30, 1999

NATIONAL CAPTIONING INSTITUTE, INC.
1900 GALLOWS ROAD SUITE 3000
VIENNA, VA 22182
(703)917-7623

Purpose: To assure the annual captioning of 2,232.5 hours of nationally broadcast and cablecast television programming in each of the three years of the grant.

Method: Using NCI's Consumer Advisory Board as well as mail surveys, the project will assess viewing preferences of deaf and hard-of-hearing viewers. Published ratings services will be used to assess the preferences of the general public. Project staff will work closely with broadcasters to provide high quality yet cost-effective captioning of nationally televised programming. Backup systems will be provided and maintained to ensure successful delivery of captions in case of national or regional emergencies. Procedures will be developed and implemented to monitor the achievement of full and accurate captions as part of an overall process of selection, training, telecast preparation, and quality assurance. These quality assurance data will be used to make further refinements in training and operations. The captioned television programming will be promoted and publicized to create greater awareness and to increase the audience size among the deaf and hard-of-hearing, as well as other groups that could benefit from the service.

Products: In addition to its captioning activities, NCI operates three full- time production facilities, maintains two toll-free numbers for consumers, acts as a national information clearinghouses, conducts research and development, and operates as a liaison between the deaf and hearing-impaired communities and the television industry. The project will be further publicized through press releases, a feature story in "Caption Update," presentations at national conventions and a home page on the World Wide Web.

Grant Number: **H026U62003**

Proposal to Closed Caption Syndicated Television Programs

Project Director: Butler, G.

Beginning Date: Oct 1, 1996
Ending Date: Sep 30, 1999

WGBH EDUCATIONAL FOUNDATION
125 Western Ave.
Boston, MA 02134
(617)492-9225

Purpose: The Caption Center, a nonprofit service of WGBH Educational Foundation, proposes to closed caption approximately 600 hours annually of nationally syndicated television programming.

Method: Building upon past successes, the Caption Center will identify about 400 hours of so-called evergreen programs and 200 hours of continuing and current television series to be captioned. The Center's Consumer Council will help determine which syndicated programs contribute most to general education and cultural experiences of audiences.

Products: The Caption Center will caption over 600 hours of television programs cheaply and efficiently, stretching government dollars through private-sector funding. Program income generated from the sale of captioned files will be used to increase the number of captioned hours available. It will play a major role in improving captioning services and in transferring the process to other media. It will promote the benefit of captioned syndicated programs to the traditional deaf and hard-of-hearing audience as well as to an audience of those who are struggling with English as a second language.

Grant Number: **H026U62004**

Diversified Closed Captioning

Project Director: WOODS, JERRY

Beginning Date: Oct 1, 1996
Ending Date: Sep 30, 1999

RAPIDTEXT
230 NEWPORT CENTER DRIVE SUITE 250
NEWPORT BEACH, CA 92660-7510
(714)644-6500

Purpose: To provide closed captioning services for television programs which will guarantee greater accessibility for individuals with hearing impairments, learning disabilities, and Limited English Proficiency.

Method: The project will rely heavily on the "Infosign" system, a unique technology developed by Rapidtext which allows realtime captioning to be shown simultaneously while live captioning is being produced. In partnership with the Discovery Channel, African Heritage Movie Network, the Geraldo Show, Country Music Television, and the United States Chamber of Commerce, Rapidtext and UVSC will close caption 916 hours per year of programming for three years. Simultaneous Spanish and English programming will be provided for selected programs using the two closed captioning channels available on most captioning decoders. Written Spanish and English transcripts will be available at no cost or minimal service fees through the Internet and World Wide Web where copyrights allow.

Products: Producers of captioned programming will advertise in television magazines and will provide national notification on the air that the programs are closed captioned. Project staff will provide notification to the deaf and hearing impaired communities through their regular contacts and customers as well as national and local publications reaching this audience. In addition, Rapidtext and UVSC will post information on the World Wide Web at sites popular with hearing impaired users.

Grant Number: **H026U63001**

Captioned Children's Television Programming

Project Director: KIRKLAND, ERIC

Beginning Date: Oct 1, 1996
Ending Date: Sep 30, 1999

NATIONAL CAPTIONING INSTITUTE, INC.
OFFICE OF THE PRESIDENT
1900 GALLOWS ROAD SUITE 3000
VIENNA, VA 22182
(703)917-7623

Purpose: To assure the continued captioning of nationally broadcast and cablecast children's television programming and to further develop private sector funding commitments.

Method: This project will provide the highest quality captioning of nation ally televised children's programming during each of the three years of the grant period at a predetermined competitive market price. Project staff will work closely with broadcasters to ensure captioning of these programs without interruption, while accommodating unexpected changes in schedules. Backup systems will be provided and main-

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tained to ensure successful delivery of captions despite national or regional emergencies. Procedures will be implemented to monitor the achievement of full and accurate captions as part of an overall process of selection, training, telecast preparation, and quality control; this data will be used to make refinements in training and operations.

Products: In addition to provision of captioning services, NCI will continue to engage in public awareness activities, including operation of three full-time production facilities, maintenance of toll-free numbers for consumer access, and ongoing liaison between deaf and hard-of-hearing communities and the television industry. Project activities will be specifically publicized through a feature story in Caption Update, national press releases, presentations at national conventions, and Internet services.

Grant Number: **H026U63002**

Closed Captioned Children's Programming

Project Director: KARLOVITS, JOSEPH

Beginning Date: Oct 1, 1996
Ending Date: Sep 30, 1999

AMERICAN DATA CAPTIONING VITAC
312 BOULEVARD OF THE ALLIES
PITTSBURGH, PA 15221
(412)261-1458

Purpose: To caption a variety of children's programs available to audiences on broadcast television.

Method: The project proposes to caption 256.5 hours of children's programs for ABC and NBC over the three-year grant period. In addition to regular programming, programs on ABC will include 6 hours of holiday specials and children's movies, as well as five annual installments of ABC Afterschool Specials. NBC programming includes previous favorites as well as "Hang Time," the story of a boys basketball team. Since these programs are not time-sensitive, VITAC will work directly with television networks to ensure that closed captions remain with program videotapes for additional future distribution.

Products: Project staff will publicize these expanded services through press releases and a special edition of "Verbatim" magazine. The Department of Education will be credited as a funder in closed captions within each captioned program.

Grant Number: **H026U63003**

Closed Captioned Children's Programs

Project Director: O'CONNELL, TRISHA

Beginning Date: Oct 1, 1996
Ending Date: Sep 30, 1999

WGBH EDUCATIONAL FOUNDATION
THE CAPTION CENTER
125 WESTERN AVENUE
BOSTON, MA 02134
(617)492-9225

Purpose: To continue the successes of the Caption Center's existing cooperative agreement for closed captioning services for children's programming, and to further expand the list of project partners to include CBS' children's lineup as well as a small number of hours of children's programming on NBC.

Method: The Caption Center will caption 400 hours of the most popular programs for children, adding 118 hours of new programs on the basis of their popularity, availability, and feedback from both the audience and the Center's Consumer Council. Approximately 35 hours of programming will be made accessible through Cable in the Classroom, a cooperative project between cable networks and cable operators to bring commercial-free educational programming into classroom settings at no cost to schools. Project staff will identify programs suitable for fundraising, using private sector funding to increase the number of captioned hours available.

Products: In addition to captioning services, project staff will aggressively and creatively promote the benefits of captioned programming to deaf and hard-of-hearing audiences as well as children learning to read or learning to speak English. New production partners will be educated about the Television Decoder Act, as well as advances in line-21 technology and their implications for children's captioning. During the second and third project years, the program will plan an on-air project with CBS to promote the use of "easy reader" captions by deaf children, parents, and educators.

Grant Number: **H026U64001**

Captioned Movies, Miniseries and Special Programs

Project Director: KIRKLAND, ERIC

Beginning Date: Oct 1, 1996
Ending Date: Sep 30, 1999

NATIONAL CAPTIONING INSTITUTE, INC.
1900 GALLOWS ROAD SUITE 3000
VIENNA, VA 22182
(703)917-7623

Purpose: To provide continued, high quality captioning of nationally broadcast and cablecast television movies, miniseries and specials in each of the three years of the grant.

Method: Project staff will work closely with broadcasters to provide high quality yet cost-effective captioning of cablecast and broadcast television movies, miniseries and specials. Backup systems will be provided and maintained to ensure successful delivery of captions in case of regional or national

emergencies. Procedures will be developed and implemented to monitor the achievement of full and accurate captions as part of an overall process of staff selection, training, telecast preparation, and quality control. Findings from this monitoring process will be used to further refine training and operations. Captioned specials and movies will be promoted and publicized to create greater awareness and to increase the audience size among the deaf and hard-of-hearing, as well as other audience groups which could benefit from the service.

Products: NCI will continue to operate three full-time production facilities as well as maintaining toll-free numbers for consumers, acting as a clearinghouses for captioning information, and operating as a liaison between the television industry and the hearing impaired community. This project will be further publicized through press releases, a feature story in "Caption Update" magazine, and presentations at national conventions.

Grant Number: **H026U64002**

Closed Captioned Movies, Mini-series, and Special Programs

Project Director: KARLOVITS, JOSEPH

Beginning Date: Oct 1, 1996
Ending Date: Sep 30, 1999

AMERICAN DATA CAPTIONING, INC. VITAC
312 BLVD. OF THE ALLIES
PITTSBURGH, PA 15222-1916
(412)261-1458

Purpose: To caption a variety of movies, mini-series, and special programs available to audiences on broadcast and cable television.

Method: This project involves captioning nationally televised programs which closely match preferences of the captioning audience; assuring the quality captioning of the programs; expanding private sector support for captioned programming by using federal funds as an inducement to increase funding support from program producers; and seeking input from the deaf community through a viewer advisory panel.

Products: The project will result in approximately 1,720 hours of captioned movies, mini-series, and special programs over a 3-year period. The project involves programming from Lifetime Television, Metro-Goldwyn-Mayer/United Artists, CBS, NBC, A&E Network, Fox, and Discovery. Captioning activities and programming will be disseminated and publicized through press releases, a special edition of Verbatim magazine, and funding credit given to the U.S. Department of Education during each captioned program.

Grant Number: **H026U64003**

Proposal to Closed Caption Movies, Mini-series, and Special Programs

Project Director: APONE, TOM

WGBH EDUCATIONAL FOUNDATION THE CAPTION CENTER
125 WESTERN AVENUE
BOSTON, MA 02134
(617)492-9225

Beginning Date: Oct 1, 1996
Ending Date: Sep 30, 1999

Purpose: To enable the captioning of an estimated 497 hours of movies, mini- series and specials programming per year.

Method: Captioned programming will include programs on networks CBS, USA, and NBC, the Arts and Entertainment network, the Sci-Fi Channel, Lifetime, and Turner Entertainment. A key goal of the project will be the identification and recruitment of multiple production partners creating movies, mini-series, and specials for participating networks. This process will provide access to advance materials, clear and frequent communication with production staff about last-minute changes, and establishment of high standards at all stages of the production process.

Products: In addition to provision of these captioning services, project staff will aggressively and creatively promote the benefits of captioned programming to deaf and hard-of-hearing audiences as well as children learning to read or learning to speak English.

Competition 84.180G: Technology, Educational Media, and Materials Research Projects that Promote Literacy

Grant Number: **H180G40079**

Teaching Workplace Literacy

Project Director: Woodward, John

Beginning Date: Jan 1, 1995
Ending Date: Dec 31, 1997

University of Puget Sound
1500 N. Warner
Tacoma, WA 98416
(206)756-3793

Purpose: To articulate how interactive instruction can be used to foster higher order thinking and how cooperative learning, specifically the group investigation method, will promote interpersonal skills development for secondary students with learning disabilities.

Method: The first study will examine the effects of the interactive instructional model on higher order thinking in mathematics. Relying on a mastery of basic mathematical concepts, students will use elementary spreadsheet skills to calculate averages, determine trends in data, and ask "what if" questions. The second study will build on Study 1 by linking math problem solving to expository writing. Again, the interactive instructional model will be used. The third study will shift focus from higher order thinking to interpersonal skill development, examining the integration of mathematical problem solving and expository writing in the context of cooperative learning. The final study will be an evaluation of our interactive instruction and cooperative learning practices to teaching workplace literacy at Phase 1 of secondary schools. This study will occur in mainstreamed classroom settings and will closely examine how the systematic research conducted earlier in experimental conditions translates into actual practice.

Products: The main product of this project will be the Integrated Learning Curriculum, containing exercises for integrating mathematical problem solving, expository writing, and strategies for structuring cooperative learning groups for this kind of instruction. This material will be designed explicitly for practitioners and inservice courses. Instructional vignettes will also be recorded on videotape for further dissemination.

Grant Number: **H180G50013**

A National Perspective on Special Educators' Use of Technology to Promote Literacy

Project Director: Robey, Elaine Pierrel

Beginning Date: Oct 1, 1995
Ending Date: Sep 30, 1998

Macro International Inc.
11785 Beltsville Dr.
Calverton, MD 20705
(301)572-0251

Purpose: To conduct a nationwide study of the ways special educators use technology, media, and materials to promote literacy among children with disabilities.

Method: This study will seek to answer the following question: (1) What is the state of practice in the use of technology to promote literacy for children with disabilities? (2) What are effective and innovative

strategies for using technology to promote literacy? and (3) What kinds of information do special educators use to determine which technology to use to promote literacy and when to use them? A research design using Computer Assisted Telephone Interview (CATI) technology and case studies will solicit information from special education teachers, administrators, and higher education faculty about what technologies they use and how, which technologies they feel are effective in promoting literacy, and what sources of information they use to learn about such technologies. The overall CATI survey will reach 2,200 educators nationwide. Case studies of seven school districts which use technology to promote literacy in special education programs will provide real-world examples to deepen descriptive statistical data gathered through the survey.

Products: Results of the survey and case studies will be translated into three informational products: a research report, a photo essay, and a computer-based presentation. Products will be distributed to the original survey participants, who will again be interviews through CATI to find out if they read the information, what they thought of it, and how they might have used it.

Grant Number: **H180G50015**

A Computerized Assessment Environment to Promote Literacy in Assessment for Individuals with Disabilities

Project Director: Burk, Martha

A.U. Software, Inc.
1735 S Street NW
Washington, DC 20009
(202)265-6443

Beginning Date: Mar 1, 1995
Ending Date: Feb 28, 1998

Purpose: To conduct Phase II research to (1) assess the overall efficiency and desirability of computerized testing environment for individuals with disabilities, and (2) to systematically investigate the effects of specific modifications on test performance of students with disabilities, with the goal of improving the performance on tests and increased inclusion of students in district assessment performances.

Method: In Phase I, 53 special education teachers and related service personnel were surveyed to determine the most common problems that special education students have in taking tests and the most common modifications used. Data from this phase will be incorporated into Phase II analysis, and software developed as a result of this research will be at the heart of Phase II experiments. After Phase I research is used to identify tests and test items currently in use that can be used in a computerized testing environment for assessing students with disabilities, staff will investigate the effectiveness and suitability of the computerized testing environment for administering tests and delivering test modifications for students with disabilities. The effects of specific computer-delivered modifications on test performance of students with specific disabilities will be systematically investigated. Finally, data will be evaluated in preparation for dissemination of results, including suggestions for continuing experimental comparison of performance on computerized modified tests with traditional test administration procedures, both modified and unmodified. The computerized assessment environment will be field-tested in four diverse special education departments representing different geographic, demographic, and administrative characteristics.

Products: Results of research will be disseminated in two reports and also through publication and presentation of research results. The first report will contain a description of the project design, a description of prototype software design, and a project evaluation section. The second report will be written for school

district management personnel, and will outline the costs and benefits of using the model for student assessment and test development.

Grant Number: **H180G50022**

Integrating Captioning with College Preparatory Courses for Students with Special Educational Needs

Project Director: Kirkland, Eric

National Captioning Institute
1900 Gallows Rd, Suite 3000
Vienna, VA 22182
(703)917-7623

Beginning Date: Oct 1, 1995
Ending Date: Sep 30, 1998

Purpose: To investigate the effect of captioned instructional television for special education and Limited English Proficiency students enrolled in college preparatory classes.

Method: Using a multiple phase research strategy, the study will address the following questions: (1) Does captioning provide cognitive benefits for college age students with learning disabilities of students with limited English proficiency? (2) Does captioning provide affective benefits for college age students with learning disabilities or students with Limited English Proficiency? (3) Is there a differential benefit (either cognitive or affective) for captioning for students with learning disabilities compared to students with Limited English Proficiency? and (4) What are the optimal conditions for implementing captioning in a community college setting? A minimum of two intact classes (one focusing on students with learning disabilities, one focusing on students with Limited English Proficiency) will be selected each year for full qualitative and quantitative data collection at Miami-Dade Community College.

Products: In addition to the knowledge and understanding gained from the data collection and analysis effort, the project will result in several products including captioned videos with accompanying guidelines for integrating them into college preparatory courses and classroom vignettes of students and instructors as they adapt to captioning technology.

Grant Number: **H180G50035**

Trains Teachers to Develop English Literacy Lesson Using Hispanic Culture and Multimedia Technology

Project Director: Andrews, Jean F.; Jordan, Don L.

Beginning Date: Oct 1, 1995
Ending Date: Sep 30, 1998

Lamar University, Beaumont
PO Box 10076
Beaumont, TX 77710
(409)880-8170

Purpose: To increase the English literacy skills of Hispanic deaf students through the use of Hispanic cultural themes presented via multimedia.

Method: This project will 1) train teachers of deaf students from Hispanic backgrounds to use multimedia technology; 2) train teachers to develop literacy software centering around the theme of Hispanic culture at elementary, junior high, and high school levels; 3) implement and evaluate these literacy lessons in classrooms with Hispanic deaf students; and 4) disseminate a series of prototypical deaf Hispanic-oriented multimedia CD-ROMs containing literacy lessons. In addition to multimedia adaptations of popular Hispanic children's books, the CD-ROM lessons will include biographical sketches of successful deaf Hispanic adults. Vocabulary enrichment will be supported through the inclusion of visual demonstrations of key terms as expressed in English and Spanish sign language.

Products: During the three-year anticipated project span, staff expect to develop five CD-ROM literacy instruction packages. Each CD will contain 10-15 literacy lessons featuring Hispanic culture. Topics will include: children's stories, legends, festivals, proverbs, crafts, jokes, folktales, art, poetry, history, recipes, and games. Narration and text on the CDs will include English written text as well as spoken English and Spanish, signed English and American Sign Language, and Spanish written text. Annual progress reports and other articles on the project will be prepared for submission to Lamar University publications as well as local, state, and national media.

Grant Number: **H180G60002**

Promoting Literacy through Materials, Media and Technology Improvements in the Classwide Peer Tutoring Program: Research on the Effects of a Computerized Learning Management System

Project Director: Greenwood, Charles

Beginning Date: Aug 1, 1996
Ending Date: Jul 31, 1999

University of Kansas
1052 Dole
Lawrence, KS 66045
(913)321-3143

Purpose: To investigate the benefits of integrating existing ClassWide Peer Tutoring research and products.

Method: A ClassWide Peer Tutoring (CWPT) Learning Management System will be developed using local area network technology to link and manage information, educational media to guide application and training, and other materials to support the peer-mediated curriculum. Within a three-year design, a prototype of this system will be investigated in terms of its effects on multiple indices of process, product, and user satisfaction when implemented in an elementary school. Participants and users will include 13 teachers and 325 students, including 65 with learning disabilities, behavior disorders, extreme mental retardation, developmental delays, and/or attention deficit-hyperactivity disorders. After testing the prototype using standard software development research designs, staff will validate the prototype in terms of: (a) teachers' implementation and satisfaction, and (b) students' literacy outcomes using single-subject, process-product, experimental research designs.

Products: The CWPT Local Management System software, manuals, media, and materials package will be disseminated to local education personnel via local districts, state education agencies, and the current CWPT publisher. Research findings will be disseminated via publications and presentations to special educators, technology researchers, and local education personnel. Graduate courses at Kansas University will include the procedures, results, and implications for practice of this project as part of their curriculum for preservice general and special educators.

Grant Number: **H180G60004**

Preventing Early Reading Failure by Enhancing Classroom Technologies: An Analysis of Peer-Assisted Learning Strategies, Computer-Assisted Instruction & Continuous Progress Monitoring in Primary General Education Classrooms

Project Director: Mathes, Patricia

Florida State University
109 HMB Innovation Park
Tallahassee, FL 32306
(850)644-4880

Beginning Date: Aug 15, 1996
Ending Date: Aug 14, 1999

Purpose: To restructure primary grade reading instruction to be more responsive to the needs of students with learning disabilities or students at risk for special education referral, while simultaneously enhancing the learning of all students in the classroom.

Method: In Year One staff will experimentally examine the effectiveness and feasibility of Peer-Assisted Learning Strategies (PALS) designed for first-grade students with and without computer-assisted instruction in phonological awareness. Participants will include 45 teachers and 225 children (135 who are at risk for special education referral or already labeled as having learning disabilities, 45 average-achieving, and 45 high achieving). This examination will continue in Year Two, but in this year staff will monitor how children are responding to PALS over time, using Curriculum-Based Measurement computer technology to help teachers identify students requiring additional help. Year Two will feature the same teachers and an identical student sample. In Year Three the project will focus on second grade, examining the impact of incorporating decoding skills instruction with older primary students. Second-grade PALS will be compared to the previously validated PALS procedures developed at Peabody College of Vanderbilt University. Additionally, staff will replicate efforts to have teachers make data-based instructional modifications for students making less than desired progress using computerized CBM technology. Participants in Year Three will include 40 second-grade teachers and 240 children (120 at risk for referral, 40 already la-

beled as having learning disabilities, 40 high achieving, and 40 average achieving). Students' social acceptance and feelings about their involvement in the interventions will be studied. Teachers will be surveyed concerning students' academic performance, class deportment and social behavior, and attitudes toward students with disabilities and reintegration.

Products: Manuscripts describing this project will be submitted to journals on special education, regular education, and school psychology, and conference presentations will be made to similar scholarly audiences. A training manual will be developed for dissemination, describing project procedures as well as strategies for facilitating implementation of these procedures. Through the School of Motion Picture, Television, and Recording Arts at Florida State University, a videotape illustrating critical features of the three PALS versions will be developed and used with conference presentations and as an adjunct to the manual.

Grant Number: **H180G60008**

Technology-Enhanced Learning Environments: A University and School Partnership for Development, Implementation, and Assessment of a Multimedia Literacy Curriculum

Project Director: Englert, Carol Sue

Michigan State University
334 Erickson Hall
East Lansing, MI 48824-1034
(517)355-1835

Beginning Date: Aug 16, 1996
Ending Date: Aug 15, 1999

Purpose: To collaborate with teachers on the development, implementation, and evaluation of a curricular approach that uses multimedia technology to teach literacy skills as well as comprehension and composition strategies to elementary students with mild disabilities.

Method: In Study 1, researchers and special education teachers will implement and evaluate the effectiveness of a curricular approach that emphasizes knowledge-construction through the use of technology. Analyses will focus on effects of the curricular approach on students' literacy achievement, strategy knowledge, and self-perceived competence. In addition, researchers will examine the features and uses of technology that enhance or detract from the literacy performance of students. Participants in this study are expected to include four collaborating teachers, 44 experimental students, and 44 control students. Experimental students will mostly be students with learning disabilities, with small subsets of students with educable mental retardation and/or emotional impairments. In Study 2, the curricular approach will be revised and embedded in language or content area subjects to evaluate the effectiveness of the technological tools when they are infused into the general education curriculum. Pretest and posttest data will be collected on the performance of special education students, with specific attention paid to data on the extent to which the curricular approach can be incorporated as part of the "regular curriculum" and the relative effectiveness of the curricular approach employed in regular versus special education settings.

Products: A disseminable curricular approach will be made available to advance teachers' knowledge and practices related to the improvement of literacy instruction and learning of students with mild disabilities through technology use. Two computer software packages will be developed and refined through this research: HyperReports and Thematic Learning Logs. The project will also lead to the creation of CD-ROMs as library resources for students, a curriculum resource for teachers, and a database for research.

By the end of the project, staff anticipate the publication of at least five research papers, six conference presentations, and three papers describing the curricular approach.

Grant Number: **H180G60013**

Caption Speed and Viewer Comprehension of Television Programs

Project Director: Jensema, Carl

Inst for Disabilities Research & Training
2424 University Blvd.
Silver Spring, MD 20902
(301)942-4326

Beginning Date: Aug 1, 1996
Ending Date: Jul 30, 1999

Purpose: To explore the ability of viewers to read, understand, and retain the material presented in captioned television programming.

Method: Two studies will be done, one to explore understanding and retention of specific facts, the other to explore understanding and retention of overall story narrative. Both studies will select specific material to be taught, create testing procedures to measure understanding and retention of material, and create video segments with captioning at different speeds to present the material. Video segments from each study will be shown to approximately 240 subjects, and these subjects will be tested on their understanding and retention of the material presented. Test performance will be analyzed in terms of caption speed, age, degree of hearing loss, and other demographic and educational variables.

Products: The final report from this project will provide caption production companies with information to help them improve the quality of captioning by fitting caption speed to audience needs and ability. This report will be made widely available to the television industry and the Deaf/hard of hearing community. Conference presentations will be made in the areas of reading research, television, and hearing loss. At least three journal articles will be written and submitted for publication. Project staff will develop a mailing list of industry leaders and will distribute the final report and other materials to 400 of these key figures.

Grant Number: **H180G60018**

Project LITT (Literacy Instruction Through Technology): Enhancing the Reading Skills of Students with Learning Disabilities through Hypermedia-Based Children's Literature

Project Director: Lewis, Rena

Project LITT
6505 Alvarado Rd., Suite 204
San Diego, CA 92120-1878
(619)594-8591

Beginning Date: Sep 1, 1996
Ending Date: Aug 31, 1999

Purpose: To study the effectiveness of hypermedia-based children's literature in improving the literacy skills of students with learning disabilities.

Method: Five interrelated studies will be conducted. These studies will focus on characteristics of hypermedia-based children's literature in relation to students' learning needs, learning strategies employed by students with learning disabilities in interaction with this type of software, types of instructional supports needed to maximize reading gains students receive from this software, the effectiveness of the software in improving reading skills of children with learning disabilities, and the effectiveness of bilingual versions of this software in improving both English and Spanish reading skills of bilingual students with learning disabilities. Research designs and methodologies will vary from study to study depending on the questions under investigation. Data will be collected on such dependent variables as attitude toward reading and reading skills in the areas of phonological awareness, decoding, word recognition, and comprehension.

Products: Project results will be reported at national conferences; in professional journals; and through other means to assure dissemination to researchers, teacher trainers, families of students with learning disabilities, and practitioners in general, special, and bilingual education. Findings have the potential to alter the ways in which teachers teach literacy skills, and, thereby, the extent to which adults with learning disabilities are able to participate in society as literate citizens.

Grant Number: **H180G60022**

Captioning Instructional Videos to Improve Literacy

Project Director: Kirkland, C. Eric

National Captioning Institute
1900 Gallows Rd, Suite 3000
Vienna, VA 22182
(703)917-7623

Beginning Date: Oct 1, 1996
Ending Date: Sep 30, 1999

Purpose: To investigate the benefits of captioned videos for students with special educational needs in Grades 1-3.

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Method: This project will implement a longitudinal study commencing with Grade 1 the first year and continuing through Grades 2 and 3 in subsequent years. At each grade level, a set of 30 videos will be prepared, with all classes at each grade level having their own sets of videos. In addition, each school will be provided with a set of videos to be shown in class as part of the language arts curriculum. Each student will be encouraged to take home one video per week to be viewed as a "talking storybook" or "video bedtime story." Activities and games will be developed to enable parents to participate in video viewing, and an exhibit will be set up at meetings of the parent teacher organization to reinforce the need for parent involvement. Throughout the three project years, staff will meet with various school personnel to provide training on the use of the videos, as well as log forms and other tools necessary to support data collection. Ongoing observations will provide baseline information and longitudinal data on the use of and attitudes toward instructional television among student and teacher participants. The participating school will be in a rural community serving many socioeconomically disadvantaged families, so it is hoped that many parents will also be able to improve their literacy through usage of the captioned videotapes.

Products: This project will result in 90 captioned videos with accompanying activities and assessments for integrating them into early intervention programs for Grades 1-3. Project staff will also publicize the project through articles in professional journals and presentations at national conferences.

Grant Number: **H180G60029**

Functional Literacy for Decision-Making: Personal Computers as Metacognitive Tools for Youth with Mild/Moderate Mental Retardation

Project Director: Keating, Thomas; Gersten, Russell

Beginning Date: Dec 1, 1996
Ending Date: Nov 30, 1999

Eugene Research Institute
132 E Broadway Suite 747
Eugene, OR 97401
(541)342-4268

Purpose: To conduct qualitative and quantitative research to determine the effectiveness of this personal information management software in providing experiences and opportunities that improve the functional literacy of students with developmental disabilities, and to understand factors that enhance or impede application of this technology.

Method: The proposed software is a graphically driven prototype providing youth with developmental disabilities with a personal information manager to help them organize personal activities, arrange their schedules, anticipate conflicts, select among alternatives, and coordinate with others. In Study One staff will conduct focus groups with teachers and families followed by a pilot experiment. This pilot study will refine and customize the software and training procedures, and will provide specific information on how teachers and parents can help students use the technology. In Study Two, staff will investigate effects of software use within a formal high school life skills instructional program, with separate groups of students using the software both at school and at home. Data will be drawn from a range of outcome measures of learning and psychosocial factors related to using assistive technology, as well as an in-depth qualitative study focusing on changes experienced by students and the perspectives of support staff.

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Products: Products will include a further refinement of software tools for functional literacy and a set of training and instructional procedures for teaching and supporting youth with developmental disabilities in the use of assistive technology. Staff will disseminate project products and findings in a variety of alternative formats, including worldwide web publishing, cassette tapes, and video. Data design specifications will also be compiled for use by developers and curriculum designers in crafting computer-based technology products that will promote the inclusion and computer literacy of youth with mental retardation.

Grant Number: **H180G60031**

Video Feedforward to Promote Reading, Communication, and Effective Judgments by Young Children with Disabilities

Project Director: Dowrick, Peter W.

Hawaii University Affiliated Program
1776 University Ave.
Manoa, HI 96882
(808)956-5009

Beginning Date: Jan 1, 1996
Ending Date: May 31, 1999

Purpose: To explore the effects of individual video feedforward on literacy outcomes for children in a tutored reading program.

Method: During the first project year, all students in second grade in the two participating schools will be screened for learning disabilities and attention deficit/hyperactivity syndrome, and eight will be identified for "extended pilot" testing of protocols for the Reading Rescue program, including eight weeks of tutored reading practice and selected video interventions. After refinement of these procedures, a second cohort of children in grades 1 and 2 with reading problems will be brought into the study. Students in the feedforward group will receive an individualized self-modeling video of themselves reading fluently and coping with the frustrations of reading difficulties. Students in a practice group will observe a video of a child in the same grade practicing reading. Both of these groups will receive structured reading practice assignments from community aides, who will have been trained using a demonstration video and tutoring sessions. The remaining students will be monitored in a waitlist group. In Year Two 35 more students will be added to the study, and will be assessed, assigned to groups, and offered services in similar fashion to the first year. Staff will collect video footage and other material to begin the packaging of training, and selected school staff will be trained to continue project procedures after funding ends. In Year 3, 15 students will be added, and all waitlisted students will be offered services before the project ends. Additional formative case study interventions will be developed around students with attention deficits. Staff will complete data collection, analyze and report results, and begin dissemination.

Products: Articles describing project results will be published in major education and disability-related journals. Staff will conduct workshops in another state to facilitate replication at another site. The program itself will be packaged for replication, assisted by a major publisher.

Competition 84.180N:
Practice Improvement Center on the Effective and Efficient Use of Technology, Media, and Materials in the Provision of Education and Related Services to Children and Youth with Disabilities

Grant Number: **H180N20013**

Practice Improvement Center on the Effective and Efficient Use of Technology, Media, and Materials in the Provision of Education and Related Services to Children and Youth with Disabilities

Project Director: Zorfass, Judy

Beginning Date: Oct 1, 1992
Ending Date: Sep 30, 1998

Education Development Center, Inc.
School and Society Programs
55 Chapel Street
Newton, MA 02160
(617)969-7100

Purpose: This project has two goals: (1) to collect, analyze, validate, and extend extant research regarding effective and efficient use of TMM to improve outcomes for children and youth with disabilities, and (2) to provide access to research and promote its used by practitioners so that they may better meet the educational and related service needs of children and youth with disabilities.

Method: A Delphi method will be employed with key stakeholders from each of several disability groups to identify priorities for that group. Based on these findings, staff will select topics for review and dissemination and revise the strategic plan accordingly. For each topic identified, research leaders, with input from others in their area of expertise, will synthesize extant research literature. Based on the strength and consistency of research findings, project staff will carry out one or more follow-up activities to validate and extend the findings. Among follow-up methods to be employed will be telephone surveys, focus group sessions, on-site field visits, videoconferences with facilitated discussion at designated download sites, and commissioned research that extends ongoing research efforts.

Products: Formats for dissemination efforts will include: (1) research briefs; (2) training manuals; (3) videotapes with accompanying print materials; (4) an on-line multimedia magazine containing text, still pictures, sound, and video; (5) videoconferences broadcast via PBS stations across the country; (6) tapes of teleconferences with accompanying facilitator's guides; and (7) electronic bulletin board discussions.

Competition 84.180T: Technology, Educational Media, and Materials Projects that Create Innovative Tools for Students with Disabilities

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Grant Number: **H180T70007**

Monitoring Authentic Problem Solving: MAPS for Enhancing Outcomes for Students with Disabilities

Project Director: Fuchs, Lynn; Fuchs, Doug

Vanderbilt University
Peabody College
Room 512 -Kirkland Hall
Nashville, TN 37240
(615)343-4782

Beginning Date: Sep 1, 1997
Ending Date: Aug 31, 1999

Purpose: In Project MAPS (Monitoring Authentic Problem Solving) for Enhancing Outcomes for Students with Disabilities, multimedia, computer-managed assessment environments will be created, tested, and disseminated to help the students overcome barriers relating to problem-solving performance assessment. The project-developed systems comprise multimedia presentations of problem situations and interactive dialogues by which problem-solving performance is scored, interpreted, and matched to instructional recommendations.

Method: MAPS helps remove existing barriers for students with disabilities by relying on multimedia presentations of problem-solving situations and by using response formats which avoid text and more accurately estimate problem-solving capacity for students with disabilities. Students are scored and their problem-solving performances are interpreted automatically to provide ongoing feedback and to produce concrete and feasible teaching recommendations matched to individual needs. Forms will be developed to apply a core set of problem-solving skills and strategies at each of five academic instructional levels and for each of four functional life skills themes and to provide the students with opportunities to practice their skills.

Products: The project will produce, test, and disseminate a teacher training manual and video for preparing students with disabilities to interact with the multimedia system, for helping teachers interpret problem-solving performance assessment feedback, and for helping teachers to understand and implement the instructional recommendations. A developer's blueprint will document and explain the process for developing similar multimedia assessment environments in related domains.

Grant Number: **H180T70021**

Developing Intelligent Software for Teaching Critical Math Concepts, Skills, and Knowledge to Young Disabled Children

Project Director: Hasselbring, Ted

Beginning Date: Sep 1, 1997
Ending Date: Aug 31, 1998

Vanderbilt University
Learning Technology Center
Division of Sponsored Research
Nashville, TN 37203
(615)322-2631

Purpose: The goal of this project is to develop and evaluate innovative software that will enable mildly disabled primary-age children to acquire the critical math concepts and skills necessary for success in school and in later life. The software will be designed and constructed based on learning theory and research developed over the past twenty years and will employ a highly motivating approach to engage and support children's efforts to improve their confidence and performance in basic math concepts and skills.

Method: Students with mild disabilities can develop an understanding of mathematics concepts comparable to students without learning disabilities, and students who have learned to solve mathematics problems in contextualized learning environments have been able to apply their knowledge and skills in real-world situations. By exposing the students to carefully designed learning experiences using assistive software in inclusive classrooms, they will acquire and build on basic and important math concepts and skills, helping teachers provide the necessary instruction to improve these students' skills, given time constraints and the number of students.

Products: Team members in this project have a long and successful history of developing award-winning software and technology-based materials in mathematics and other content areas. The software design model and evaluation procedures developed by this project will guarantee a product that is successful with these students.

Grant Number: **H180T70035**

Active Accessibility Guide Toolkit

Project Director: Morford, Ronald

Beginning Date: Sep 1, 1997
Ending Date: Aug 31, 1999

Automated Functions Inc.
7700 Leesburg Pike, Suite 420
Falls Church, VA 22043
(703)883-9797

Purpose: The goal of this project, the Active Accessibility Graphical User Interface Descriptive Environment (GUIDE) Toolkit, is to design, develop, and test custom software that significantly increases the number of Windows 95 and Windows NT application programs that are accessible to visually impaired people, thereby increasing educational and business opportunities.

Method: The project will use a new set of protocols from Microsoft called Active Accessibility in order to make many off-the-shelf inaccessible applications immediately accessible to computer users who are visually impaired by reading the screen information and sending it to a voice synthesizer. For programs that cannot be made immediately accessible, a software Toolkit will enable computer vendors to enhance their software to make it accessible. The research team at Automated Functions, Inc., working with an advisory committee comprised of visually impaired professionals, special education teachers, and visually impaired college field test students, will work together to design, develop, and test the software that will become the Active Accessibility GUIDE Toolkit.

Products: The result of this project will be software that will make thousands of inaccessible Windows 95 and Windows NT application programs accessible to visually impaired students and business professionals. The use of the Graphical User Interface will increase with time, and visually impaired people will continue to need excellent tools in order to independently interact with this growing technology and maintain and increase their educational and business opportunities.

Grant Number: **H180T70046**

Realtime Captioning for Remote Classrooms: A State-of-the-Art Learning Environment for Students with Disabilities

Project Director: Fifield, Bryce

Beginning Date: Sep 1, 1997
Ending Date: Aug 31, 1998

Minot State University
North Dakota Center for Persons with Disabilities
500 University Avenue W
Minot, ND 58707
(701)858-3580

Purpose: This project will develop and demonstrate technology for providing real-time captioning for remote classrooms. Using the Internet as a pipeline for information to and from the classroom, the project will combine existing technologies to allow remote captionists to provide real-time captioning of distant classroom events, discussions, and presentations.

Method: Audio from the classroom will be captured with microphones and sent using audio software over the Internet to a captionist in another location. The captionist will transcribe the audio with stenographic captioning equipment and feed it back to the classroom where it will be displayed on a television monitor or an overhead projector.

Products: In addition to developing the captioning system, the project will evaluate its performance in terms of student outcomes, compatibility with classroom environments, and teacher and student opinion. Throughout the development process, project staff will work with potential marketing partners to evaluate the labor market, alternative low-cost versions of the system, and consumer responses to prototypes.

Grant Number: **H180T70051**

Multimedia + Math Word Problems + (Deaf + ESL Students) = A Handy Solution

Project Director: Andrews, Jean F.

Lamar University -Beaumont
Dept. of Communication Disorders & Deaf
P.O. Box 10076
Beaumont, TX 77710
(409)880-8177

Beginning Date: Oct 1, 1997
Ending Date: Sep 30, 1999

Purpose: This project intends to use a multimedia approach to: (1) build overall mathematics skills and, specifically, problem-solving strategies for students with deafness or whose first language is not English; and (2) improve the skills of teachers of these students, many of whom lack certification and training in mathematics.

Method: The project will create innovative math story problems, at grade levels from 2nd through 6th, in Spanish, English, and American Sign Language using graphics and animation with multicultural children. It will also train math teachers of deaf children to write their own multimedia math word problems.

Products: The project's goals are aligned with national math standards for the deaf and with Goals 2000, and the expertise of the project staff can produce software incorporating problem-solving strategies and graphics in appropriate formats. The software will be evaluated in classrooms with deaf children, distributed on the World Wide Web, and marketed commercially.

Grant Number: **H180T70058**

Computerized Adaptive Testing for TCB

Project Director: Reiman, John

Western Oregon University
Teaching Research Division
345 N. Monmouth Avenue
Monmouth, OR 97361
(503)838-8776

Beginning Date: Oct 1, 1997
Ending Date: Sep 30, 1999

Purpose: The purpose of this project is to develop a computerized adaptive testing version of the Transition Competence Battery (TCB, an assessment tool designed to measure the transition skills of non-college-bound deaf adolescents). This instrument is composed of two content domains — vocational and independent living skills — and is designed to be administered in groups or individually. It is presented on video in conceptually accurate Pidgin Sign English.

Method: The defining characteristic of the TCB is its accessibility to students who rely on sign communication and who learn at different rates. The program is designed to choose appropriate items based on student responses. The resulting tailored assessment will reduce testing time, increase assessment accuracy, allow for individual pacing, and provide reports for the Individualized Educational Program.

Products: This project will help with both group and individual administration of assessment measuring the transition skills of non-college-bound deaf adolescents, a segment of the deaf population that is the largest and most in need of services to succeed in their transition to adult life. If the project is successful, it will seek a commercial publisher for the assessment model.

Grant Number: **H180T70059**

Networking: A Tool for Teaching Motorized Wheelchair Operation in Virtual Reality

Project Director: Inman, Dean P.

Beginning Date: Oct 1, 1997
Ending Date: Sep 30, 1999

Oregon Research Institute
1715 Franklin Blvd.
Eugene, OR 97403-1983
(541)484-2123

Purpose: This project uses virtual reality simulation of a natural environment to teach children with physical disabilities to drive a motorized wheelchair, enabling them to actively and independently explore their environments.

Method: The project will upgrade the current virtual reality platform using newer and more efficient technology which provides more realistic graphics and eliminates the need for wearing a cumbersome head-mounted display, at one-third the cost of the original system. The system will be networked so that two participants, from remote locations, can interact in the same virtual environment, allowing the children to play and explore the virtual world with a companion. This feature should motivate children to stay on task, work harder, and have more fun (all have been problems with such simulations), which will maximize their driving skill acquisition and allow the participation of children who cannot easily be transported to a central training center.

Products: Independent mobility provides an essential underpinning for cognitive, perceptual, and social development in children. When children with severe physical disabilities gain the functional skills to overcome the limitations in their environments, they increase their academic achievement and better adjust socially. The three phases of this project, when implemented, will upgrade the training system, network the system with another in place within the state, and evaluate the extent to which children can acquire driving skills in the real world as a function of training in virtual reality with a companion, all of which are expected to contribute to the academic and social development of students with severe physical disabilities.

Grant Number: **H180T70061**

Project Connect: Interactive Consultation Model for School Teachers to Benefit Students with Disabilities

Project Director: Huray, Paul

University of South Carolina
South Carolina Supercomputer Network
Center for Disabilities
Columbia, SC 29208
(803)777-9520

Beginning Date: Oct 1, 1997
Ending Date: Sep 30, 1999

Purpose: The purpose of Project Connect is to establish a rural consultation model that will provide resource information for teachers, parents, and students with special needs and direct access to experts. Desktop interactive video technology will be used to demonstrate a cost-effective approach to providing needed consultation to rural areas served by National Science Foundation designated hub schools.

Method: Using desktop interactive video for two-way audio and video communication to address local needs and maximize resources, Project Connect staff will mentor local teams to increase the leadership, technical assistance, and outreach capacities of participating schools. The site coordinators will collaborate with other schools interested in furthering teachers' abilities and responsiveness to apply this technology in innovative ways. The technology will enable participants to function independently and share in the electronic dissemination of materials and information.

Products: Project Connect will use desktop interactive video technology to provide access to needed experts and resource information for rural teachers, parents, and students with disabilities. Through the technology, individuals with disabilities will receive the tools and resources to achieve the outcomes desired for all students, including independence, productivity, and an improved quality of life.

Grant Number: **H180T70065**

TEChPLACEs: Technology in Early Childhood-Planning and Learning About Community Environments

Project Director: Hutinger, Patricia

Western Illinois University
1 University Circle
Macomb, IL 61455
(309)298-1634

Beginning Date: Oct 1, 1997
Ending Date: Sep 30, 1999

Purpose: The major goal of TEChPLACEs (Technology in Early Childhood-Planning and Learning About Community Environments) is to provide an innovative process tool and a state-of-the-art instructional environment for children from 3 through 8 years of age with a wide range of disabilities across ages, classrooms, and locations, as children and teachers build their own communities, using a variety of media, to share with other classrooms, then engage in a collaborative effort among classrooms to construct a community together on an Internet site. Six entities will collaborate on the project: a technology

component within the college of education of Western Illinois University, teachers in four school districts, and the local vocational system program.

Method: The initial component is an Internet site, a home page that contains project activities and procedures of the collaborative entities and progress reports from them. The second component will be the dissemination and marketing of the project. A collaborative community will be created that will include images, animation, games, text and sound, e-mail, resources, a bulletin board, chat rooms, and other user-friendly functions for participants. Finally, a CD-ROM will be developed containing documentation, media, procedures, source code, and a template to replicate the project in other locations with similar or different tasks, content, outcomes, and platforms.

Products: The project is designed to foster a state-of-the-art instructional environment that makes full use of the collaborative interaction and communication potential of the Internet and communication technology so that it can be accessed and used by children with disabilities, then replicated for use by others. Extensive dissemination, marketing, and evaluation are included.

Grant Number: **H180T70072**

That's the Job for Me! Production of an Interactive CD-ROM Job Exploration Program for Youth with Developmental Disabilities

Project Director: Morgan, Robert L.

Utah State University
Dept. of Special Education & Rehabilitation
Logan, UT 84322-2865
(801)797-3251

Beginning Date: Jan 1, 1998
Ending Date: Dec 31, 1999

Purpose: This project proposes to develop an interactive CD-ROM-based job preference program to provide youth with disabilities with access to a wealth of employment information so that they can make informed decisions.

Method: The project will develop, evaluate, and disseminate a career education and job exploration program, including a job preference assessment to provide youth and their families with realistic representations of jobs using video-based CD-ROM. Critical attributes of jobs commonly held or potentially attainable by youth with disabilities will be identified and a prototype motion-video CD-ROM will be developed based on these critical attributes. Field tests of the video will be made and the program disseminated to secondary special education, school-to-work, rehabilitation, and supported employment programs nationwide.

Products: Expected outcomes of the project are increased consumer-driven transition programs, heightened involvement of youth with disabilities and their families in transition activities, higher probability of placement in preferred jobs, potentially greater job longevity, and improved job performance.

Grant Number: **H180T70076**

Re:Search Organizer: An Innovative Tool to Support Students with Disabilities

Project Director: Corley, Patricia

Education Development Center, Inc.
Family, Schools, and Community
55 Chapel Street
Newton, MA 02158-1060
(617)969-7100

Beginning Date: Nov 1, 1997
Ending Date: Oct 31, 1999

Purpose: Re:Search Organizer is an innovative tool designed to help students with cognitive, sensory, and orthopedic impairments to develop inquiry and research skills within the context of the middle school curriculum. The project will help students pose research questions, develop a research plan, gather and analyze information, and present their knowledge to others.

Method: The existing software program, Search Organizer, will be redesigned to be more accessible and useful for students with disabilities. Various strategies will be used to develop the improved package, which will be tested in several middle-school settings where students with disabilities participate in research and project-based work.

Products: In this information age, students with disabilities need to become skilled inquirers and researchers; for those with cognitive, sensory, and orthopedic impairments, these skills are particularly difficult to develop. Re:Search will provide an elegant research tool that is intuitive, accessible, and eminently useful to middle school students with disabilities. This product will be marketed and disseminated to schools throughout the country through partnerships with various organizations.

Competition 84.180U: Collaborative Research on Technology, Media, and Materials for Children and Youth with Disabilities

Grant Number: **H180U50022**

Implementing Technology Related Policy in the Schools; Fostering Ownership and Change at the Local Level through Participatory Action Research. Project FITT.

Project Director: Cortina, Mary

National Center for Disability Services
201 I.U. Villets Road
Albertson, NY 11507
(516)465-1609

Beginning Date: Oct 1, 1995
Ending Date: Sep 30, 1998

Purpose: To foster ownership among all stakeholders and thus create real change at the local level in response to state guidelines on the implementation of the IDEA's technology-related mandates.

Method: In Phase I, the project will enable stakeholders in school districts to (a) understand the intent of state guidelines for assistive technology planning; (b) assess the impact of the existing assistive technology and training systems upon the provision and integration of technology for students with disabilities; and (c) develop an agenda for change. During Phase II, project staff will assist participating school districts in implementing their assistive technology objectives and plans. In Phase III, a variety of descriptive and outcome data will be collected and analyzed to allow schools to evaluate their implementation activities and plan for the remaining project period. Reports will be drafted for each participating district, outlining those factors which inhibit or promote: the ordering and purchasing of assistive technology; use of assistive technology by students with disabilities, as well as by teachers and administrators; formation of school-based teams; effective technology training; and the integration of technology in the curriculum. Phase IV will consist of dissemination activities, and will additionally focus on the transfer of ownership back to participating districts.

Products: The project training curriculum will be formatted into a manual for use by school districts as they prepare to implement a technology project in their school districts. Also included will be concrete examples of project activities and specific procedures and technical assistance developed to enhance project outcomes. Materials will be adapted on request in accessible formats such as diskettes, large print, Spanish, and Braille. The State Department of Education will work with project staff to produce training and informational teleseminars for school district staff. Staff will also pursue the possibility of presenting project findings at professional conferences.

Grant Number: **H180U50025**

Examination of the Effectiveness of a Functional Approach to the Delivery of Assistive Technology Services in Schools

Project Director: Blackhurst, Edward A.

University of Kentucky - Research Foundation
105 Kinkead Hall
Lexington, KY 40506
(606)257-7908

Beginning Date: Oct 1, 1995
Ending Date: Sep 30, 1998

Purpose: To examine the impact of the use of a recently-conceptualized unifying model of human function to guide the development and delivery of assistive technology services in public schools.

Method: The functional model to be used focuses on identification of demands that are placed on an individual from the environment and the functional responses that are required to respond to those demands. Functional responses are made within the context of personal perceptions, the available personal resources, and the external supports (including assistive technologies) that can be provided. Research will be conducted to identify commercially-available assistive technology assessment instruments and development of specifications for assistive technology assessment protocols. Research will also conduct an initial comparison of assistive technology information systems, and procedures will be developed for researching other identified information systems. Procedures will be developed for conducting research on interaction analyses occurring during assistive technology IEP meetings, as well as procedures for guiding the evaluation of assistive technology effectiveness. Project staff will develop instrumentation for conducting critical incident studies to determine the competencies needed by those who are involved in delivering assist technology services. Initial training materials, procedures for evaluating their effectiveness, and guidelines for providing training for those who will be implementing the policies and procedures will be developed. Baseline information about existing assistive technology policies and procedures will be collected as well. A variety of qualitative and quantitative research methodologies will be employed to answer key research questions, including survey research, case studies, single subject research, critical incident studies, interviews, direct observation, and evaluation research. Following comparison of this baseline data with research findings based on assessment of outcomes among students receiving these technology services, the final summer of the project will be devoted to analysis of project effectiveness and preparation of the final report.

Products: Project findings will be presents at state and national conferences, and an article reporting on research comparing software packages will be prepared for publication in a professional journal. A document of Guidelines for Providing Assistive Technology Services in Schools will be generated, to include a description of what was learned as a result of various project investigations. A manual will also be developed for each of the screening and assessment procedures used in the project. Screening and assessment devices will also be discussed in a series of reports for consumers.

Grant Number: **H180U50026**

Formulate and Conduct Research Around Improving Education and Technology Related Services at the Local Level

Project Director: Kiernan, William E.; Hart, Debra

Children's Hospital
300 Longwood Avenue
Boston, MA 02115
(617)355-7443

Beginning Date: Oct 1, 1995
Ending Date: Sep 30, 1998

Purpose: To examine the impact of comprehensive district-wide capacity-building initiatives on the utilization of assistive technology across learner environments.

Method: Technical assistance in the development of adoption of policies (including a funding plan) supporting the utilization of technology in the classroom will be provided. Training will be given to school personnel and family members relating to available assistive technology funding options. Training and technical assistance will also be provided to teachers, focusing on the utilization of instructional software in the classroom. District Assistive Technology Utilization Teams will receive assistance in heightening community awareness of the potential of assistive technology, and students and family members will receive training regarding low cost assistive technology for use in the home, workplace, and community. Project collaborators will join with three local education agencies and one regional educational collaborative to participate in the first two years of the project. In each participating LEA or REC, a series of behavioral observations of five target students will be conducted, during which time data will be collected on the students' level of active participation in integrated settings. Project activities in the third year will be primarily devoted to measuring outcomes and conducting dissemination activities.

Products: Progress reports will be developed and disseminated to the project PAC, the state Department of Education, and other interested parties. Data-based and descriptive articles will be written and submitted to appropriate journals, and project staff will be prepared to present results at various national, regional, and state conferences.

Grant Number: **H180U50035**

Beyond Assistive Technology: Policy, Curriculum and Technology for Inclusion

Project Director: Rose, David

CAST, Inc.
39 Cross Street
Peabody, MA 01960
(978)531-8555

Beginning Date: Sep 1, 1995
Ending Date: Aug 31, 1998

Purpose: To study the efficacy of a technology-based literacy curriculum as an inclusive educational tool for teachers, parents, and children with disabilities.

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Method: The multimedia technology literacy curriculum to be used, WiggleWorks, is inclusive and features supports for students with disabilities. Six elementary schools (three urban and three rural) will participate in the study. Two sites will receive three high level Macintosh computers per classroom and copies of WiggleWorks, as well as intensive professional development in practices which best foster technology use and inclusion in literacy education. Technology to foster parent involvement in the literacy development of their children will also be provided. Two more schools will receive the same technology and software, but no training on the use of that technology to develop literacy in inclusive classrooms. The remaining two schools will participate as observation and control sites. At these schools observations will be made regarding the ways in which existing technology is used to foster literacy and full inclusion.

Products: Study results will be disseminated via print and accessible multimedia CD ROM to individuals with disabilities, parents, teachers, administrators, policy makers, and publishers. The collaborative team will also generate recommendations for changes in WiggleWorks while it undergoes revision. The study will also yield recommended guidelines for the design and production of inclusive curricula for curriculum developers and publishers.

Grant Number: **H180U50039**

The Early Childhood Comprehensive Technology System (ECCTS)

Project Director: Hutinger, Patricia

Beginning Date: Sep 1, 1995
Ending Date: Aug 31, 1998

Western Illinois University
Board of Governors of State Colleges and Universities
Macomb/McDonough County
Macomb, IL 61455
(309)298-1634

Purpose: To advance the availability, quality, use, and effectiveness of technology in addressing the practical problem of improving technology access in early childhood programs at the local level.

Method: The study, which will use a qualitative approach, is designed to examine effects of a comprehensive system on three interwoven elements providing technology services to young children with disabilities including the learners and their families, professional and family development staff, and promoting policy. Together the ECCTS components will provide initial and ongoing child assessment, planning and implementing developmentally appropriate technology activities, transition services, staff development, family participation, administration, community involvement, and policy development. During the study, ECCTS will focus on integrated classrooms, children, staff, families, community schools, and state agencies with interests in assistive technology experiences for young children. 35 3- and 4-year-olds with moderate to severe disabilities that prevent them from interacting effectively with objects, people, and events in their environment will be the primary subjects. They are spread across 12 classrooms, each of which has a special education teacher and an early childhood teacher in conjunction with support staff. Tested procedures and materials will be adapted for model projects focusing on elements of the ECCTS system. Data to be gathered across the major components will include informally gathered pre- and post-test measures, observation, interviews, examination of records and materials, analysis of videotapes, content analysis, focus groups, and other methods. Component I data will specifically include records and videotapes of classroom activities as well as individual child behaviors, dyads, and small groups functioning during curricular activities.

Products: Study results will provide the field with information on the most effective strategies in terms of developing comprehensive technology systems that mesh with delivery systems. Awareness information on the project will be disseminated through news releases, television and radio, journal publications, electronic bulletin boards, and presentations during local, regional, and national presentations.

Grant Number: **H180U60004**

Implementing a Computer-Aided Speech-to-Print Transcription System as a Support Service for Deaf and Hard of Hearing Students

Project Director: Stinson, Michael

Rochester Institute of Technology, NTID
1112 Peterson Hall, 52 Lom
Rochester, NY 14623-5604
(716)239-6012

Beginning Date: Oct 1, 1996
Ending Date: Sep 30, 1999

Purpose: To develop knowledge, procedures, and guidelines for effectively implementing the C-Print system as a support service for deaf and hard of hearing high school and college students.

Method: A real-time speech-to-print transcription system will be implemented as a support system for deaf students. This system employs a hearing transcriber and a computer program to convert speech into print as the words are being spoken. The system uses a laptop computer and word processing software with a computerized abbreviation system to reduce keystrokes, and will provide a real-time text display for students to use to understand what is being said and done in the classroom. In addition, the text file thus stored will be available for examination by students, tutors, and instructors after class. The C-Print system will be implemented in four settings where students are mainstreamed: (a) a large, centralized high school regional program; (b) a program which provides itinerant teachers and support services to deaf and hard of hearing students attending local high schools; the college program at the National Technical Institute for the Deaf which has a large number of students and extensive support services; and (d) a group of college programs with few deaf and hard of hearing students and limited support services. Staff will collect qualitative and quantitative data to specify exactly how students use this technology and the extent to which the technology is beneficial. The project will also collect objective data regarding comprehension and retention of lecture material, and the data are expected to indicate the characteristics of students and conditions under which C-Print is most beneficial. The professional development component of the project will develop effective procedures for training C-Print operators to work in a variety of settings, create clearly specified roles for them, and share this knowledge with special education and regular classroom teachers.

Products: Information concerning hardware and software, the abbreviation system, research and evaluation efforts, operator use in the classroom, and the utility of the system for deaf and hard of hearing students at the secondary and postsecondary levels will be disseminated via workshops, conference presentations, journals, project materials, a video documentary, and demonstrations of the system.

Grant Number: **H180U60008**

Project ASSIST: All Students in Supported Inquiry-Based Science with Technology

Project Director: Zorfass, Judith

Beginning Date: Oct 1, 1996
Ending Date: Sep 30, 1999

Education Development Center, Inc.
55 Chapel St.
Newton, MA 02158-1060
(617)969-7100

Purpose: To develop, implement, evaluate, and disseminate a model that will have a national impact on the successful inclusion of students with diverse disabilities in inquiry-based science classrooms that integrate technology, media, and materials.

Method: Staff will work intensively with one demonstration site in the Cambridge, Massachusetts Public Schools. Teachers will be trained in the action research model to be used, and a feedback system will be initiated to support this model. Staff will develop embedded assessments for two Supported Inquiry Science (SIS) units for each grade level, and their reliability and validity will be tested at the demonstration school. Teachers will keep results of embedded assessments in their six focal students' science portfolios throughout the project, and the project's impact will also be assessed through interviews and surveys. Additional schools will be added in Year 2 and Year 3, following the same basic model as was used in Year One.

Products: Staff will develop and refine an ASSIST manual, featuring project guidelines, case studies, sample curriculum materials, and resources. Awareness and readiness to replicate the model will be built through four other large-scale reform projects housed at EDC. Staff will also share project descriptions and materials through the World Wide Web, journal articles, written publications, and conference presentations.

Grant Number: **H180U60012**

Project BRIDGE: Bridging the Gap between Research and Practice

Project Director: Carnine, Doug; Grossen, Bonnie

Beginning Date: Sep 1, 1995
Ending Date: Aug 30, 1999

University of Oregon
Research and Sponsored Programs
5219 Univ of
Eugene, OR 97403-5219
(541)683-7543

Purpose: To evaluate the effects of a policy that involves close monitoring of student performance data, comparison of local results with results from comparable students in research studies, and making necessary modifications in professional development during local technology, media, and materials (TMM) implementation to reach target performance levels.

Method: During the first project phase, a prototype policy will be developed and evaluated around a group of studies validating various aspects of the BIG Accommodation TMM for middle school students with disabilities taught in regular classrooms. The BIG Accommodation is an integrated curriculum teaching students with disabilities high-level problem-solving and reasoning strategies in science, mathematics, history, writing, and critical thinking. This approach incorporates interactive videodiscs, multimedia CD-ROM presentations, and other TMM. In the second phase, a generic BRIDGE policy will be developed and evaluated, with data from the field test used to identify where success levels of participating students with disabilities do or do not match success levels of students in previous research. Policies and/or professional development programs will be altered in response to these identified strengths and failings. Field testing will take place in urban and/or economically disadvantaged communities, and replication of the BRIDGE model will occur in large urban areas where a research and dissemination network is already active.

Products: The final product will be manuals for use in professional development to enable local school personnel to adopt and implement the BRIDGE policy. A manual will also be issued as a second volume of the Handbook for Site Councils, to be disseminated through professional development work with site councils throughout Oregon.

Grant Number: **H180U60037**

Achieving Curriculum Inclusion and Integrating Technology with Instruction Through Backward Mapping and Collaborative Action Research

Project Directors: Gersten, Russell; Keating, Thomas

Beginning Date: Jan 1, 1997
Ending Date: Dec 31, 1999

Eugene Research Institute
132 E Broadway Suite 747
Eugene, OR 97401
(541)342-1553

Purpose: To analyze technology use, policies, and implementation practices within three states and three local school districts.

Method: Strand One will consist of a policy analysis using focus groups, review of critical documents, key informant interviews, and direct classroom observations. Staff will examine discrepancies, misinterpretations, and unintended effects of policy at the school/classroom level in Oregon, Massachusetts, and Maryland. Analysis will provide a baseline description of SEA and LEA policies concerning access to and implementation of technology for students with learning disabilities, and how these policies actually play out at the classroom level. Strand Two will consist of two collaborative action research studies involving 20 students with learning disabilities at each of two sites in Oregon and Massachusetts. These studies will develop an instructional and professional development approach merging state-of-the-art technology with recent advances in instruction, focusing on conceptually based teaching of key concepts and issues in 20th century American civilization using a widely available software package for electronic concept mapping. Strand Three will focus on synthesis and dissemination activities, including a return to policy analysis and generation of policy recommendations using a "backward mapping" method.

Products: Staff will develop a report delineating similarities and differences across states and communities, and articulating relationships among strategies in the National Agenda for Technology, Media, and

Materials for students with disabilities. A range of dissemination materials will also be developed for urban communities with culturally and linguistically diverse populations.

Contracts

Grant Number: **HS96013001**

Institute to Improve the Quality of Technology, Educational Media, and Materials for Individuals with Disabilities

Project Director: Carnine, Douglas

Beginning Date: Sep 30, 1996
Ending Date: Sep 29, 2001

University of Oregon
National Center to Improve the Tools of Educators
Institute for the Development of Educational Achievement
Eugene, OR 97403-5219
(541)346-5131

Purpose: To apply national leadership and achieve widespread, long-term, and systemic changes that will improve the quality and effectiveness of technology, educational media, and materials (TMM) for individuals with disabilities. To encourage the appropriate development of TMM and inform decision makers about the acquisition and use of TMM to enhance outcomes for students with disabilities.

Method: The Institute will build a network of partnerships tosupport quality TMM and their appropriate use, create an infrastructure for developing and using quality TMM, and implement the infrastructure to build capacity for developing and using quality TMM. These goals will be realized through partnerships with governmental groups, the education profession, and external groups. The Institute will use a social marketing approach to recruit new partners and to educate the public and decision makers. Additional approaches will include introducing incentives for development and use of TMM; influencing revisions in the adoption process; and increasing capacity regarding TMM for publishers, end users, and researchers.

Products: Products will include: (1) prototype content standards prepared for California; (2) a research review of experimental studies of pedagogy in mathematics and reading; (3) procedures for consolidating, refining, and field-testing a model for identifying quality TMM and its appropriate use; and (4) procedures for consolidating, refining, and field-testing a model for identifying replicable high performing schools that appropriately use an array of quality TMM. Other products will be developed in conjunction with NCITE partners.

Grant Number: **HS97022001**

Center to Link Local School Districts with Information and Support on the Use of Technology, Educational Media, and Materials

Project Director: Zorfass, Judith

Beginning Date: Sep 30, 1997
Ending Date: Sep 29, 2002

Educational Development Center, Inc.
55 Chapel Street
Newton, MA 02158
(617)969-7100

Purpose: The goal of the Center to Link Local School Districts with Information and Support on the Use of Technology, Educational Media, and Materials (TMM) is to connect urban schools districts to available and relevant information and support on the effective use of TMM to: identify their needs and formu-

late plans based on those needs; access information and support in a coherent way that is closely aligned to those needs and plans; and develop the capacity to monitor, document, and evaluate the outcomes.

Method: The Center will first identify and assemble all of the entities that can provide relevant information and support to the school districts: a community-based resource group, a national resource bank of experts, and Dept. of Education-supported projects that provide training, technical assistance, materials, and resources. Second, the Center will create mechanisms and processes that identify the information and coordination with the needs of the sites.

Products: Center staff will: help design tools and procedures to carry out needs assessments and guide urban districts in forming action plans; utilize effective strategies to identify available and relevant information and support; create new information and support opportunities when needed; facilitate the development of a comprehensive plan to ensure that each district has access to necessary information and support, either within its district or in cross-district venues; create a blueprint to document all information and support activities, describe their impact, and share lessons learned with the wider field; guide districts to monitor and evaluate their own work and the work of the Center.

Grant Number: RW97076001

Screen Reader Architecture Math System (SRAMS)

Project Director: Morford, Ronald A.

Beginning Date: Sep 30, 1997
Ending Date: Mar 31,1998

Automated Functions Inc.
7700 Leesburg Pike, Ste. 420
Falls Church, VA 22043
(703)883-9797

Purpose: The objective of the Screen Reader Architecture Math System (SRAMS) is to design, develop, and test a computer-based system which uses successful screen reading architecture to enable visually impaired students to independently manipulate math expressions in order to solve math problems.

Method: Research must be conducted to determine if the SRAMS concept is feasible. Automated Functions, Inc. (AFI) will conduct research on the SRAMS to create a low-cost battery-powered SRAMS unit. The rules of mathematics will be analyzed and combined with screen reading navigational logic to create a specialized system to assist the visually impaired student in interacting with math expressions and problems. Using screen-reading theory applied to mathematics instead of prose, SRAMS will provide tools which will make it easier for the visually impaired student to succeed in higher math.

Products: A computer-based tool that enables more visually impaired people to succeed in mathematics can open educational and business opportunities. The SRAMS system can provide the means for thousands of visually impaired people to succeed in higher math and therefore be qualified to fill the ever-increasing technical job and educational positions. AFI believes this system has a high probability of success and that it will positively impact thousands of visually impaired people.

Grant Number: **RW97076006**

Modification to the Network Computer to Enable It to Communicate with TDD Users

Project Director: Emmanuel, Dillip

Beginning Date: Sep 30, 1997
Ending Date: Mar 31, 1998

Microflip, Inc.
11211 Petworth Lane
Glenn Dale, MD 20769-2017
(301)262-1629

Purpose: Microflip will research the development of a stand-alone, fully digital ISDN-based terminal to emulate the TDD, voice, or computer to substitute for current systems that are incompatible with certain types of hearing aids or TDDs.

Method: The work done by Microflip over the next six months will consist of first selecting the most appropriate network PCs for functional enhancements. Software menus and chat windows will be developed, algorithms will be modified to incorporate TDDs, existing signalers (modems) will be adapted to make them compatible with the network computer, and MAPI protocol will be modified to accept TDD messages.

Products: The commercial potential for a networked computer that supplants the conventional telephone, TDD, answering machine, orcomparable devices will be highly cost-effective, resulting in considerable savings in government and corporate offices. It would eliminate the need for TDD answering machines and dedicated TDD lines, as well as the specialized hardware interfaces. Once network computers are modified to accept TDD, it should be easy to broadcast the software and subsequent upgrades will be inclusive of the hearing impaired. Expansion in use will eventually eliminate the need for TDDs.

Grant Number: **RW97076007**

Interactive Multimedia to Facilitate Employment of Adolescents and Young Adults with Disabilities

Project Director: Avent, R. Richard

Beginning Date: Sep 30, 1997
Ending Date: Mar 31, 1998

American Research Corporation of Virginia
P.O. Box 3406
Radford, VA 24143-3406
(540)731-0655

Purpose: American Research Corporation of Virginia proposes the development and evaluation of interactive multimedia (IM) for diffusion of job matching and searching strategies to adolescents with disabilities in grades 9-12. Interactive multimedia is the integration of text, graphics, and audiovisual media with computer-based information retrieval techniques to enable a user to view information in a nonlinear, intuitive manner.

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Method: Phase I technical objectives include development of instructional content and scripts for video portions of the program, integration of the content with multimedia presentation technology, and evaluation of the Phase I system with regard to usability and knowledge gain. Phase II evaluation will entail assessment of changes in knowledge, attitudes, and career outcomes with regard to more traditional methods of instruction. Phase I target population will be teens with learning disabilities, and in Phase II, the target population will be teens with other disabilities, such as hearing, visual, orthopedic, health, and speech impairments.

Products: Anticipated results of the Phase I effort entail demonstration of the feasibility of an IM-based program for promoting jobmatching and searching strategies for teens with learning disabilities in grades 9-12. The Phase I program will serve as a model for instruction for teens with other disabilities in Phase II. Since computers have become commonplace in U.S. schools and since software may be more easily distributed than either text or audiovisual material, the proposed program has high commercial potential among special education teachers and administrators as well as home users.

Grant Number: **RW97076008**

Promoting Student Self-Determination: A Student-Directed Multimedia Transition Planning and Learning Package

Project Director: Burk, Martha

Beginning Date: Sep 30, 1997
Ending Date: Mar 31, 1998

A.U. Software, Incorporated
1735 S Street, NW
Washington, DC 20009
(202)265-6443

Purpose: In Phase I, A.U. Software intends to study the feasibility and technical merit of a CD-ROM-based transition planning program for students with mental retardation and learning disabilities. Project foundations were innovative self-determination transition planning materials developed and validated by The Arc, and computer-based presentation methods developed and field-tested by A.U. Software for assessment of students with disabilities.

Method: The project's goal is to produce an interactive, multimedia CD-ROM version of "Whose Future Is It Anyway: A Student-DirectedTransition Planning Process," currently published by the Council for Exceptional Children in workbook form. A working advisory team will be selected, and a comprehensive survey instrument will be designed, administered, and analyzed. After the survey, an analysis of the print version of "Whose Future" will be conducted to determine its suitability for computer-based presentation and any needed modifications will be made. Field test data will be reviewed, and contact with field test sites for Phase II and preliminary planning discussions for Phase II research will be made, and a work-plan outline will be drafted.

Products: If both Phase I and Phase II are successful, a new, more efficient and cost-beneficial transition planning program, one that enhances self-determination, can be made available for students with disabilities. It will provide a methodology and technology tool that can be used in other contexts and with other materials for improving learning outcomes for these students.

Grant Number: **RW97076012**

Enhanced Learning:Development, Memory Skills, and Task Sequencing Using Voice Activated Wearable Computers

Project Director: Lontos, John C.

Beginning Date: Sep 30, 1997
Ending Date: Mar 31, 1998

InterVision Systems, Inc.
9524 Meadowmont Lane
Raleigh, NC 27615
(919)845-8630

Purpose: The proposed project will determine if the benefits of hospital-based treatment for individuals who have suffered traumatic brain injuries can be extended through the use of a wearable, voice-activated computer system designed specifically for individuals with disabilities.

Method: InterVision, with the participation of Bryn Mawr Rehab, proposes to establish the technical feasibility and resultant benefits of developing a wearable voice-activated hands-free computer system to assist disabled individuals to compensate for the cognitive deficits which they experience and thus function more independently. Once the potential capability and functionality of the proposed technology is determined, and a cost-benefit analysis performed, a preliminary system-level design will be developed as a foundation for Phase II of the project.

Products: It is estimated that the proposed device, if implemented successfully, would be helpful to at least 1% of those hospitalized for traumatic or non-traumatic brain dysfunction, and that it could yield a market of 9,000 patients per year. Since most patients would require the proposed device for some time beyond the initial year of hospitalization, and since there are many similar patients in other countries, the number of devices that could be marketed is large, made even larger when one adds in the potential applications for disabilities other than brain injury.

Grant Number: **RW97076013**

Transition Planning for Students and Parents: An Educational Package

Project Director: Wurzburg, Gerardine

Beginning Date: Sep 30, 1997
Ending Date: Mar 31, 1998

State of the Art, Inc.
4455 Connecticut Avenue, NW
Suite B-200
Washington, DC 20008
(202)537-0818

Purpose: This videotape/print package will show parents successful models of transition planning for middle and high school students with various disabilities. The package's planned documentary style will allow viewers to see how families, students, and school systems work together to find appropriate goals and the means to accomplish those goals.

Method: Phase I research is expected to result in a creative outline for the videotape and a completed (but not produced) print brochure to accompany the videotape. These two pieces will be reviewed by a board of advisors and tested in focus groups with educators and parents of children with disabilities.

Products: In Phase II, the videotape and brochure are expected to be produced. State of the Art has developed close ties with the leading disability groups in the country to assist in distribution of media materials.

Grant Number: **RW97076015**

Conversion of Score Files to Music Braille

Project Director: Milani, Albert

Beginning Date: Sep 30, 1997
Ending Date: Mar 31, 1998

Dancing Dots Braille Music Technology
130 Hampden Road, Third Floor
Upper Darby, PA 19082-3110
(610)352-7607

*Purpose:*Dancing Dots' GOODFEEL Braille Music Translator already transcribes MIDI and Lime Notation files into standard music braille. This project intends to create a prototype of a reader for Score files, for which there is currently no such automated way of interpretation.

Method: In Phase I of the project the intention is to create a robust prototype of a new file reader module for GOODFEEL in the standard programming language for music-related computer applications. The prototype should be able to transcribe all the parts of a Score file. Once the prototype is developed, Dancing Dots can follow through with a full implementation of the Score file reader.

Products: If successful, GOODFEEL can be used by music publishers to offer braille editions of works from their catalogues that are stored as Score files. Blind users of Score will be able to have companion braille editions of compositions they print with Score. After a successful Phase II implementation, Dancing Dots can market GOODFEEL to blind musicians, music schools, and programs at all academic levels.

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